

Mr. Steve Setzer
Foamex, L.P.
2211 South Wayne Street
Auburn, Indiana 46706

Re: 033-13706
Significant Source Modification to:
Part 70 permit No.: T033-7625-00047

Dear Mr. Setzer:

Foamex, L.P. was issued Part 70 operating permit T033-7625-00047 on November 11, 1998 for a stationary flexible polyurethane foam production plant. An application to modify the source was received on January 5, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) one (1) Variable Pressure Foaming (VPF) line, constructed in 2001, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC

- 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as a Significant Permit Modification in accordance with 326 IAC 2-7-12(d).

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call Trish Earls at (973) 575-2555, ext. 3219 or dial (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,

Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
TE/EVP

cc: File - Dekalb County
U.S. EPA, Region V
Dekalb County Health Department
IDEM Northern Regional Office
Air Compliance Section Inspector Doyle Houser
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

PART 70 OPERATING PERMIT

OFFICE OF AIR QUALITY

Foamex, L.P.
2211 South Wayne St.
Auburn, Indiana 46706

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T033-7625-00047	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: November 11, 1998
First Significant Source Modification No. 033-13706-00047	Pages Amended: 3, 3a, 4, 5, 29-32n, 38, 39, 40, 40a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: June 25, 2001

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary flexible polyurethane foam production plant.

Responsible Official:	Steve Setzer, Plant Manager
Source Address:	2211 South Wayne St., Auburn, Indiana 46706
Mailing Address:	same as above
General Source Phone Number:	219-925-1073
SIC Code:	3086
County Location:	Dekalb
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (1) One (1) flat block pour line, identified as EU-PL, with a maximum capacity of producing 4.8×10^8 board feet of foam per year, and exhausted through seven (7) stacks (S/V ID 1,2,3,4,5,6,7). This facility was installed in November of 1977;
- (2) two (2) Flame Laminators, identified as Flame Laminator #1 (EU-F1) and Flame Laminator #2 (EU-F2), each with a maximum capacity to finish 3.504×10^8 square feet per year of polyurethane foam. Flame Laminator #1, installed in 1978, is exhausted through two (2) stacks (S/V ID 15,16), and Flame Laminator #2, installed in 1993, is exhausted through one (1) stack (S/V ID 34);
- (3) four (4) Rebond mold units, identified as EU-R1, EU-R2, EU-R3, and EU-R4, with a total maximum capacity of bonding 9.6 tons per hour of scrap foam, exhausted through four (4) stacks (S/V ID 28, 29, 35, 36), respectively;
- (4) one (1) source-wide adhesive application operation, with emissions venting inside the plant;
- (5) one (1) source-wide chemical solvent usage operation, with emissions venting inside the plant;
- (6) three (3) natural gas-fired industrial boilers identified as Boilers #1, #2 and #3 (EU-B1, EU-B2, EU-B3), each rated at 10.5 million (MM) British thermal units (Btu) per hour and exhausted through three (3) stacks (S/V ID 31,32,33), respectively. Boilers #1 and #2 were installed in 1978 and Boiler #3 was installed in 1986; and

- (7) one (1) Variable Pressure Foaming (VPF) line, constructed in 2001, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (1) The following units emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:
- (a) TDI/MDI Storage Tanks [326 IAC 14, 40 CFR Part 63.1290 through 63.1309, Subpart III].

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) flat block pour line, identified as EU-PL, with a maximum capacity of producing 4.8×10^8 board feet of foam per year, and exhausted through seven (7) stacks (S/V ID 1,2,3,4,5,6,7). This facility was installed in November of 1977;
- (b) two (2) Flame Laminators, identified as Flame Laminator #1 (EU-F1) and Flame Laminator #2 (EU-F2), each with a capacity to finish 3.504×10^8 ft² per year of polyurethane foam. Flame Laminator #1, installed in 1978, is exhausted through two (2) stacks (S/V ID 15,16), and Flame Laminator #2, installed in 1993, is exhausted through one (1) stack (S/V ID 34);
- (c) four (4) Rebond mold units, identified as EU-R1, EU-R2, EU-R3, and EU-R4, with a total maximum capacity of bonding 9.6 tons per hour of scrap foam, exhausted through four (4) stacks (S/V ID 28, 29, 35, 36) respectively;
- (d) one (1) source-wide adhesive application operation, with emissions venting inside the plant;
- (e) one (1) source-wide chemical solvent usage operation, with emissions venting inside the plant;
- (f) one (1) Variable Pressure Foaming (VPF) line, constructed in 2001, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride; and
- (g) The following units emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:
 - (1) TDI/MDI Storage Tanks [326 IAC 14, 40 CFR Part 63.1290 through 63.1309, Subpart III].

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the flat block pour line (EU-PL), the four (4) Rebond mold units (EU-R1, EU-R2, EU-R3, and EU-R4), the Variable Pressure Foaming Line (VPF), and the TDI/MDI storage tanks described in this section except when otherwise specified in 40 CFR Part 63, Subpart III.

D.1.2 Flexible Polyurethane Foam Production NESHAP Compliance Dates [326 IAC 2-7-5] [40 CFR Part 63.1291, Subpart III] [326 IAC 20-22-1]

- (a) The foam manufacturing process at this source is a slabstock polyurethane foam manufacturing operation.

- (b) Pursuant to 40 CFR 63.1291(a), the new VPF line, the existing flat block pour line, the four (4) existing Rebond mold units, and the TDI/MDI storage tanks shall be in compliance with all provisions of this rule no later than October 8, 2001.

D.1.3 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1294, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1294, this source shall comply with the provisions of the section which are as follows:

- (a) Diisocyanate storage vessels.
Diisocyanate storage vessels shall be equipped with either a system meeting the requirements in paragraph (a)(1) below, or a carbon adsorption system meeting the requirements of paragraph (a)(2) below.
- (1) The storage vessel shall be equipped with a vapor return line from the storage vessel to the tank truck or rail car that is connected during unloading.
 - (i) During each unloading event, the vapor return line shall be inspected for leaks by visual, audible, or any other detection method.
 - (ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than the subsequent unloading event.
 - (2) The storage vessel shall be equipped with a carbon adsorption system, meeting the monitoring requirements of 40 CFR 63.1303(a), that routes displaced vapors through activated carbon before being discharged to the atmosphere. The Permittee shall replace the existing carbon with fresh carbon upon indication of breakthrough before the next unloading event.
- (b) Transfer pumps in diisocyanate service.
Each transfer pump in diisocyanate service shall meet the requirements of paragraph (b)(1) or (b)(2) below.
- (1) The pump shall be a sealless pump; or
 - (2) The pump shall be a submerged pump system meeting the requirements in paragraphs (b)(2)(i) through (iii) listed below.
 - (i) The pump shall be completely immersed in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.
 - (ii) The pump shall be visually monitored weekly to detect leaks,
 - (iii) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (b)(2)(iii)(A) and (B) below, except as provided in paragraph (d) below.
 - (A) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.
 - (B) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:
 - (1) Tightening of packing gland nuts.
 - (2) Ensuring that the seal flush is operating at design pressure and temperature.
- (c) Other components in diisocyanate service.
If evidence of a leak is found by visual, audible, or any other detection method, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) below. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

- (d) Delay of repair.
 - (1) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in diisocyanate service.
 - (2) Delay of repair for valves and connectors is also allowed if:
 - (i) The owner or operator determines that diisocyanate emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
 - (ii) The purged material is collected and destroyed or recovered in a control device when repair procedures are effected.
 - (3) Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a sealless pump, and repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

D.1.4 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1299, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1299, this source complying with the source-wide emission limitation option provided in 40 CFR 63.1293(b) shall control HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line (which includes the existing flat block pour line and the new VPF line), and equipment cleaning HAP emissions in accordance with the provisions in 40 CFR 63.1299. Compliance shall be determined on a rolling annual basis in accordance with 40 CFR 63.1299(a).

- (a) Rolling annual compliance.
Under the rolling annual compliance provisions, actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions are compared to allowable source-wide emissions for each consecutive 12-month period. The allowable source-wide HAP emission level is calculated based on the production for the 12-month period, resulting in a potentially different allowable level for each 12-month period. While compliance is on an annual basis, compliance shall be determined monthly for the preceding 12-month period. The actual source-wide HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(c)(1) through (4), listed in paragraphs (b)(1) through (4) below. The allowable HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(d), listed in paragraph (c) below.
- (b) Procedures for determining actual source-wide HAP emissions.
The actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions shall be determined using the procedures in 40 CFR 63.1299. Actual source-wide HAP emissions for each individual month shall be determined using the procedures specified in paragraphs (b)(1) through (3) below.
 - (1) Actual source-wide HAP emissions for a month shall be determined using Equation 5 and the information determined in accordance with paragraphs (b)(2) and (3) below.

$$PWE_{\text{actual}} = \sum_i^n (ST_{i, \text{begin}} - ST_{i, \text{end}} + ADD_i) \quad (\text{Equation 5})$$

Where:

PWE_{actual} = Actual source-wide HAP ABA and equipment cleaning HAP emissions for a month, pounds/month.
 n = Number of HAP ABA storage vessels.
 $ST_{i, begin}$ = Amount of HAP ABA in storage vessel i at the beginning of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below.
 $ST_{i, end}$ = Amount of HAP ABA in storage vessel i at the end of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below.
 ADD_i = Amount of HAP ABA added to storage vessel i during the month, pounds, determined in accordance with the procedures listed in paragraph (b)(3) below.

- (2) The amount of HAP ABA in a storage vessel shall be determined by monitoring the HAP ABA level in the storage vessel in accordance with 40 CFR 63.1303(d).
 - (3) The amount of HAP ABA added to a storage vessel for a given month shall be the sum of the amounts of all individual HAP ABA deliveries that occur during the month. The amount of each individual HAP ABA delivery shall be determined in accordance with 40 CFR 63.1303(e).
 - (4) Actual source-wide HAP emissions for each consecutive 12-month period shall be calculated as the sum of actual monthly source-wide HAP emissions for each of the individual 12 months in the period, calculated in accordance with paragraphs (b)(1) through (3) above.
- (c) Allowable source-wide HAP emissions for a consecutive 12-month period shall be calculated as the sum of allowable monthly source-wide HAP emissions for each of the individual 12 months in the period. Allowable source-wide HAP emissions for each individual month shall be calculated using Equation 6.

$$emiss_{allow, month} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(limit_i)(polyol_i)}{100} \right) j \quad (\text{Equation 6})$$

Where:

$emiss_{allow, month}$ = Allowable HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions from the slabstock foam production source for the month, pounds.
 m = Number of slabstock foam production lines.
 $polyol_i$ = Amount of polyol used in the month in the production of foam grade i on foam production line j, determined in accordance with 40 CFR 63.1303(b), pounds.
 n = Number of foam grades produced in the month on foam production line j.
 $limit_i$ = HAP ABA formulation limit for foam grade i, parts HAP ABA per 100 parts polyol. The HAP ABA formulation limits are determined in accordance with 40 CFR 63.1297(d).

D.1.5 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1301, Subpart III][326 IAC 20-22-1]

The requirements of 40 CFR 63.1301 apply to the four (4) existing Rebond mold units. Pursuant to 40 CFR 63.1301, the Permittee shall comply with the provisions in paragraphs (a) and (b) below.

- (a) A HAP or HAP-based material shall not be used as an equipment cleaner at a rebond foam source.
- (b) A HAP-based mold release agent shall not be used in a rebond foam source.

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 2-2] [40 CFR 52.21]

The polyurethane foam production plant shall limit the VOC emissions from the emission units identified as the pourline (EU-PL), flame laminators #1 and #2 (EU-F1, EU-F2), four (4) rebond molding units (EU-R1, EU-R2, EU-R3, EU-R4), three (3) natural gas boilers (EU-B1, EU-B2, EU-B3) identified in Section D.2, adhesive application operations, chemical solvent usage, and the VPF line such that total source-wide VOC potential to emit is less than 250 tons per twelve (12) consecutive month period:

- (a) The total VOC usage at the pourline facility identified as (EU-PL) and the VPF line shall be limited such that VOC emissions do not exceed 164.64 tons per twelve (12) consecutive month period. Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate;
 - (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:

VOC emissions from pourline (EU-PL) (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs

VOC emissions from VPF line (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon adsorber on VPF line)

- (A) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.
 - (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:
- VOC emissions from VPF line (tons) =
TDI or MDI usage (lbs) x 0.0016% x 1 ton / 2000 lbs x (1 - overall TDI and MDI control efficiency of carbon adsorber on VPF line)

where:

TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight)

- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and

- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.
- (b) The VOC emissions from Flame Laminator #2 (EU-F2) shall be limited to less than 25.0 tons per year based on the following:
 - (1) This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit potential VOC emissions from EU-F2 to less than 25.0 tons per year.
- (c) Flame Laminator #1 (EU-F1) emissions shall be based on a VOC emission rate of 6.5 pounds per hour. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from EU-F1.
- (d) The VOC emissions from the four (4) rebond molding facilities (EU-R1, EU-R2, EU-R3, EU-R4) are based on a total emission factor of 0.14 lbs VOC/hr. This factor shall be used when calculating VOC emissions. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from the four (4) rebond molding facilities (EU-R1, EU-R2, EU-R3, EU-R4).

Compliance with these conditions shall limit source-wide VOC emissions to less than 250 tons per year and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.7 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

- (a) The facility identified as Flame Laminator #2 (EU-F2) shall be limited to no more than 7,380 hours of operation per twelve (12) consecutive month period. This operating limit is required to limit the potential to emit VOC to less than 25.0 tons per year to render the requirements of 326 IAC 8-1-6 (General Reduction Requirements) not applicable.
 - (1) This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit the potential to emit VOC from EU-F2 to less than 25.0 tons per year.
- (b) Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Best Available Control Technology (BACT) for the new VPF line will be following:
 - (1) Operation of the carbon adsorber to control VOC emissions from the VPF line at all times that the VPF line is in operation. The carbon adsorber shall operate at a minimum TDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.
 - (2) The production of polyurethane foam in the VPF line shall be limited to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber.

Emissions shall be calculated using the following:

- (A) VOC emissions from amine catalyst usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight)
x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon
adsorber on VPF line)

- (i) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.

- (B) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
TDI or MDI usage (lbs) x 0.0016% x 1 ton / 2000 lbs x (1 - overall TDI
and MDI control efficiency of carbon adsorber on VPF line)

where:

TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage (gal)
x density (lbs/gal) x TDI or MDI % (weight)

- (C) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.

D.1.8 Particulate Matter (PM) [326 IAC 6-3]

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the four (4) rebond mold unit facilities (EU-R1, EU-R2, EU-R3, EU-R4) shall not exceed a total 18.66 pounds per hour when operating at a total process weight rate of 9.6 tons per hour.
- (b) Pursuant to 326 IAC 6-3 (Process Operations), the total allowable PM emission rate from the two (2) propane-fired (natural gas backup) flame laminator machines (EU-F1, EU-F2) shall not exceed 4.1 pounds per hour when operating at a total process weight rate of 2,000 pounds per hour.

The pounds per hour limitation's were calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the pourline (EU-PL), Flame Laminator #1 (EU-F1), Flame Laminator #2 (EU-F2), and the VPF line and any control devices.

Compliance Determination Requirements

D.1.10 Testing Requirements [40 CFR 63.1304, Subpart III][326 IAC 2-7-6(1),(6)][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1304, the Permittee shall use the test methods listed below, as applicable, to demonstrate compliance with Subpart III.

- (a) Test method to determine foam properties.
The IFD and density of each grade of foam produced during each run of foam shall be determined using ASTM D3574-91, Standard Test Methods for Flexible Cellular Materials--Slab, Bonded, and Molded (incorporation by reference--see 40 CFR 63.14), using a sample of foam cut from the center of the foam bun. The maximum sample size for which the IFD and density is determined shall not be larger than 24 inches by 24 inches by 4 inches. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to determine the IFD and density in accordance with this paragraph.

D.1.11 Compliance Demonstrations [40 CFR 63.1308, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1308,

- (a) For the Permittee, compliance with the requirements listed in paragraphs (a)(1) through (a)(2) below shall mean compliance with the requirements contained in 40 CFR 63.1293 through 63.1301, absent any credible evidence to the contrary.
 - (1) The requirements described in Tables 3, 4, and 5 of Subpart III; and
 - (2) The requirement to submit a compliance certification annually as required under 40 CFR 63.1306(g).
- (b) All slabstock affected sources.
For slabstock affected sources, failure to meet the requirements contained in 40 CFR 63.1294 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (b)(1) through (b)(6) below, as applicable, shall be considered a separate violation.
 - (1) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(1), each unloading event that occurs when the diisocyanate storage vessel is not equipped with a vapor return line from the storage vessel to the tank truck or rail car, each unloading event that occurs when the vapor line is not connected, each unloading event that the vapor line is not inspected for leaks as described in 40 CFR 63.1294(a)(1)(i), each unloading event that occurs after a leak has been detected and not repaired, and each calendar day after a leak is detected, but not repaired as soon as practicable;
 - (2) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each unloading event (or each month if more than one unloading event occurs in a month) that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4), and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;

- (3) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2) through the alternative monitoring procedures in 40 CFR 63.1303(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each time that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4) at the interval established in the design analysis, and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;
 - (4) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(1), each calendar day that a transfer pump in diisocyanate service is not a sealless pump;
 - (5) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(2), each calendar day that a transfer pump in diisocyanate service is not submerged as described in 40 CFR 63.1294(b)(2)(i), each week that the pump is not visually monitored for leaks, each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with 40 CFR 63.1294(b)(2)(iii)(B), and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1294(d));
 - (6) For each affected source complying with 40 CFR 63.1294(c), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1296(f)).
- (c) Slabstock affected sources complying with the source-wide emission limitation. For the Permittee complying with the source-wide emission limitation as provided in 40 CFR 63.1293(b), failure to meet the requirements contained in 40 CFR 63.1299 shall be considered a violation of this subpart. Violation of each item listed in paragraph (c)(1) below, as applicable, shall be considered a separate violation.
- (1) For each affected source complying with 40 CFR 63.1299 in accordance with the rolling annual compliance option in 40 CFR 63.1299(a), each calendar day in the 12-month period for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with 40 CFR 63.1303(b)(1)(i), each calendar day in a week in which the amount of HAP ABA in a storage vessel is not determined in accordance with 40 CFR 63.1303(d), each delivery of HAP ABA in which the amount of HAP ABA added to the storage vessel is not determined in accordance with 40 CFR 63.1303(e), each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with 40 CFR 63.1303(b)(3)(i), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with 40 CFR 63.1304(b);
- (d) Molded and rebond foam affected sources.
- For the Permittee, a rebond foam affected source, failure to meet the requirements contained in 40 CFR 63.1301 shall be considered a violation of this subpart. Violation of each item listed in the following paragraphs shall be considered a separate violation.
- (1) For each rebond foam affected source subject to the provisions of 40 CFR 63.1301(a), each calendar day that a HAP-based material is used as an equipment cleaner; and

- (2) For each rebond foam affected source complying with 40 CFR 63.1301(b), each calendar day that a HAP-based mold release agent is used.

D.1.12 Testing Requirements [326 IAC 2-7-6(1),(6)]

- (a) The following VOC testing requirement applies to the following facilities:

- (i) pourline (EU-PL);
- (ii) flame laminators #1 and #2 (EU-F1, EU-F2);
- (iii) rebond molding (EU-R1, EU-R2, EU-R3, EU-R4);

During the period between 24 and 36 months after issuance of this permit, the Permittee shall perform VOC testing, to confirm the VOC emissions stated in D.1.1 and D.1.2, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. The Permittee shall conduct the performance test in accordance with Section C - Performance Testing. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

- (b) The following PM and PM-10 testing requirement applies to the rebond molding facilities identified as EU-R1, EU-R2, EU-R3, and EU-R4 (S/V ID 28,29,35,36);

During the period between 24 and 36 months after issuance of this permit, the Permittee shall perform PM testing utilizing Methods 5 or 17 (40 CFR 60, Appendix A, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. The Permittee shall conduct the performance test in accordance with Section C - Performance Testing. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

- (c) The following VOC testing requirement applies to the VPF line:

During the period within 180 days after start-up, in order to demonstrate compliance with Conditions D.1.6 and D.1.7, the Permittee shall perform VOC testing utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.13 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.6 and D.1.7 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.14 VOC Emissions

Compliance with Conditions D.1.6 and D.1.7 shall be demonstrated at the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

D.1.15 VOC Emissions Control

- (a) The carbon adsorber controlling VOC emissions from the VPF line shall be in operation at all times that the VPF line is in operation to ensure compliance with conditions D.1.6 and D.1.7.

- (b) The carbon adsorber controlling VOC emissions from the VPF line shall maintain a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.16 Monitoring Requirements [40 CFR 63.1303, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1303, the Permittee shall comply with each applicable monitoring provision of 40 CFR 63.1303 as listed below.

- (a) Monitoring requirements for storage vessel carbon adsorption systems.
The Permittee using a carbon adsorption system to meet the requirements of 40 CFR 63.1294(a) shall monitor the concentration level of the HAP or the organic compounds in the exhaust vent stream (or outlet stream exhaust) from the carbon adsorption system at the frequency specified in (a)(1) or (2) below in accordance with either (a)(3) or (4) below.
 - (1) The concentration level of HAP or organic compounds shall be monitored during each unloading event, or once per month during an unloading event if multiple unloading events occur in a month.
 - (2) As an alternative to monthly monitoring, the Permittee can set the monitoring frequency at an interval no greater than 20 percent of the carbon replacement interval, which is established using a design analysis described below in paragraphs (a)(2)(i) through (iii).
 - (i) The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature.
 - (ii) The design analysis shall establish the outlet organic concentration level, the capacity of the carbon bed, and the working capacity of activated carbon used for the carbon bed, and
 - (iii) The design analysis shall establish the carbon replacement interval based on the total carbon working capacity of the carbon adsorption system and the schedule for filling the storage vessel.
 - (3) Measurements of HAP concentration shall be made using 40 CFR part 60, appendix A, Method 18. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
 - (4) Measurements of organic compounds shall be made using 40 CFR part 60, Appendix A, Method 25A. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
- (b) Monitoring for HAP ABA and polyol added to the foam production line (which includes the existing flat block pour line and the new VPF line) at the mixhead.
 - (1) The Permittee shall comply with the provisions in paragraph (b)(1)(i) below.
 - (i) The Permittee shall continuously monitor the amount of polyol added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2) through (4) below.
 - (2) The owner or operator shall monitor either:
 - (i) Pump revolutions; or
 - (ii) Flow rate.
 - (3) The device used to monitor the parameter from paragraph (b)(2) shall have an accuracy to within +/- 2.0 percent of the HAP ABA being measured, and shall be calibrated initially, and periodically, in accordance with paragraph (b)(3)(i) or (ii) below.
 - (i) For polyol pumps, the device shall be calibrated at least once each 6 months.

- (ii) For HAP ABA pumps, the device shall be calibrated at least once each month.
- (4) Measurements must be recorded at the beginning and end of the production of each grade of foam within a run of foam.
- (c) Monitoring of HAP ABA in a storage vessel.
The amount of HAP ABA in a storage vessel shall be determined weekly by monitoring the HAP ABA level in the storage vessel using a level measurement device that meets the criteria described in paragraphs (c)(1) and either (c)(2) or (c)(3) below.
 - (1) The level measurement device must be calibrated initially and at least once per year thereafter.
 - (2) With the exception of visually-read level measurement devices (i.e., gauge glass), the device must have either a digital or printed output.
 - (3) If the level measurement device is a visually-read device, the device must be equipped with permanent graduated markings to indicate HAP ABA level in the storage tank.
- (d) Monitoring of HAP ABA added to a storage vessel.
The amount of HAP ABA added to a storage vessel during a delivery shall be determined in accordance with either paragraphs (d)(1), (2), or (3) of this section.
 - (1) The volume of HAP ABA added to the storage vessel shall be determined by recording the volume in the storage vessel prior to the delivery and the volume after the delivery, provided that the storage tank level measurement device used to determine the levels meets the criteria in paragraph (c) above.
 - (2) The volume of HAP ABA added to the storage vessel shall be determined by monitoring the flow rate using a device with an accuracy of +/- 2.0 percent, and calibrated initially and at least once each six months thereafter.
 - (3) The weight of HAP ABA added to the storage vessel shall be calculated as the difference of the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading into the storage vessel. The weight shall be determined using a scale meeting the requirements of either paragraph (d)(3)(i) or (ii) below.
 - (i) A scale approved by the State or local agencies using the procedures contained in Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998 (incorporation by reference--see 40 CFR 63.14).
 - (ii) A scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.17 Record Keeping Requirements [40 CFR 63.1307, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1307, the applicable records designated in paragraphs (a) through (c) below shall be maintained by the Permittee.

- (a) Storage vessel records.
 - (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
 - (2) For storage vessels complying through the use of a carbon adsorption system, the records listed in paragraphs (a)(2)(i) or (ii), and paragraph (a)(2)(iii) of this section.
 - (i) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading, when the device is monitored in accordance with 40 CFR 63.1303(a); or

- (ii) For affected sources monitoring at an interval no greater than 20 percent of the carbon replacement interval, in accordance with 40 CFR 63.1303(a)(2), the records listed in paragraphs (a)(2)(ii)(A) and (B) below.
 - (A) Records of the design analysis, including all the information listed in 40 CFR 63.1303(a)(2)(i) through (iii), and
 - (B) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading.
 - (iii) Date when the existing carbon in the carbon adsorption system is replaced with fresh carbon.
 - (3) For storage vessels complying through the use of a vapor return line, paragraphs (a)(3)(i) through (iii) below.
 - (i) Dates and times when each unloading event occurs and each inspection of the vapor return line for leaks occurs.
 - (ii) Records of dates and times when a leak is detected in the vapor return line.
 - (iii) Records of dates and times when a leak is repaired.
- (b) Equipment leak records.
- (1) A list of components as specified below in paragraph (b)(1)(i).
 - (i) For all affected sources, a list of components in diisocyanate service,
 - (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump and the date of installation.
 - (3) When a leak is detected as specified in 40 CFR 63.1294(b)(2)(ii) and 40 CFR 63.1294(c), the requirements listed in paragraphs (b)(3)(i) and (ii) below apply:
 - (i) Leaking equipment shall be identified in accordance with the requirements in paragraphs (b)(3)(i)(A) and (B) below.
 - (A) A readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
 - (B) The identification on equipment, other than a valve, may be removed after it has been repaired.
 - (ii) The information in paragraphs (b)(3)(ii)(A) through (H) shall be recorded for leaking components.
 - (A) The instrument and operator identification numbers and the equipment identification number.
 - (B) The date the leak was detected and the dates of each attempt to repair the leak.
 - (C) Repair methods applied in each attempt to repair the leak.
 - (D) The words "above leak definition" if the maximum instrument reading measured by the methods specified in 40 CFR 63.1304(a) after each repair attempt is equal or greater than the leak definitions for the specified equipment.
 - (E) The words "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (F) The expected date of the successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (G) The date of successful repair of the leak.
 - (H) The date the identification is removed.
- (c) HAP ABA records.
 - (1) Source-wide limitations - rolling annual compliance and monthly compliance alternative records.

The Permittee complying with the source-wide limitations of 40 CFR 63.1299, and the rolling annual compliance provisions in 40 CFR 63.1299(a), shall maintain the records listed in paragraphs (c)(1)(i) through (c)(1)(vii) below.

- (i) Daily records of the information listed in paragraphs (c)(1)(i)(A) through (C) of this section.
 - (A) A log of foam runs each day. For each run, the log shall include a list of the grades produced during the run.
 - (B) Results of the density and IFD testing for each grade of foam produced during each run of foam, conducted in accordance with the procedures in 40 CFR 63.1304(b). The results of this testing shall be recorded within 10 working days of the production of the foam. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to keep records of the IFD and density.
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the amount of polyol added to the slabstock foam production line at the mixhead for each grade produced during each run of foam, determined in accordance with 40 CFR 63.1303(b).
- (ii) For sources complying with the source-wide emission limitation, weekly records of the storage tank level, determined in accordance with 40 CFR 63.1303(d).
- (iii) Monthly records of the information listed below in paragraphs (c)(1)(iii)(A) through (E).
 - (A) A listing of all foam grades produced during the month,
 - (B) For each foam grade produced, the residual HAP formulation limitation, calculated in accordance with 40 CFR 63.1297(d).
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the total amount of polyol used in the month for each foam grade produced.
 - (D) The total allowable HAP ABA and equipment cleaning emissions for the month, determined in accordance with 40 CFR 63.1297(b)(2).
 - (E) The total actual source-wide HAP ABA emissions for the month, determined in accordance with 40 CFR 63.1299(c)(1), along with the information listed in paragraphs (c)(1)(iii)(E)(1) and (2) below.
 - (1) The amounts of HAP ABA in the storage vessel at the beginning and end of the month, determined in accordance with 40 CFR 63.1299(c)(2); and
 - (2) The amount of each delivery of HAP ABA to the storage vessel, determined in accordance with 40 CFR 63.1299(c)(3).
- (iv) Each source complying with the rolling annual compliance provisions of 40 CFR 63.1299(a) shall maintain the records listed in paragraphs (c)(1)(iv)(A) and (B) below.
 - (A) The sum of the total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.
 - (B) The sum of the total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.

- (v) Records of all calibrations for each device used to measure polyol added at the mixhead, conducted in accordance with 40 CFR 63.1303(b)(3).
- (vi) Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel, conducted in accordance with 40 CFR 63.1303(d)(1).
- (vii) Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of 40 CFR 63.1303(e)(3). For scales meeting the criteria of 40 CFR 63.1303(e)(3)(i), this documentation shall be in the form of written confirmation of the State or local approval. For scales complying with 40 CFR 63.1303(e)(3)(ii), this documentation shall be in the form of a report provided by the registered scale technician.
- (d) The Permittee following the compliance methods in 40 CFR 63.1308(b)(1) and (c)(1) shall maintain records of each use of a vapor return line during unloading, of any leaks detected during unloading, and of repairs of leaks detected during unloading.
- (e) The Permittee subject to 40 CFR 63.1300 or 40 CFR 63.1301 of this subpart shall maintain a product data sheet for each compound other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, which includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each solvent other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance.
- (f) The Permittee subject to 40 CFR 63.1300 or Sec. 63.1301 of this subpart shall maintain a product data sheet for each mold release agent used that includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each mold release agent.

D.1.18 Record Keeping Requirements

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.6.
 - (1) The amount and VOC (tertiary amine) content of each amine catalyst, raw material, adhesive, and chemical solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to raw materials and those used as cleanup solvents;
 - (2) A log of the month of use;
 - (3) The volume weighted VOC content of the adhesives and solvents used for each month;
 - (4) The cleanup solvent usage for each month;
 - (5) The total VOC usage, including tertiary amine usage, for each month; and
 - (6) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Conditions D.1.6(b) and D.1.7(a), a cumulative operating time meter, equipped with a continuous recorder for documenting the time of operation for the Flame Laminator #2 (EU-F2), shall be permanently installed and operated at all times when the unit is in operation.

- (c) To document compliance with Condition D.1.7(b), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.7(b).
 - (1) The amount and VOC (tertiary amine) content of each amine catalyst and other raw material used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (2) A log of the month of use;
 - (3) The total VOC usage, including tertiary amine usage, for each month; and
 - (4) The weight of VOCs emitted for each compliance period.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.19 Reporting Requirements [40 CFR 63.1306, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1306, the Permittee shall comply with each applicable reporting provision in this section.

- (a) Initial notification.
The Permittee shall submit an initial notification in accordance with 40 CFR 63.9(b).
- (b) Application for approval of construction or reconstruction.
The Permittee shall submit an application for approval of construction or reconstruction in accordance with the provisions of 40 CFR 63.5(d).
- (c) Precompliance report.
The Permittee shall submit a precompliance report no later than 12 months before the compliance date. This report shall contain the information listed in paragraphs (c)(1) through (c)(8) below, as applicable.
 - (1) Whether the source will comply with the emission point specific limitations described in 40 CFR 63.1293(a), or with the source-wide emission limitation described in 40 CFR 63.1293(b).
 - (2) For a source complying with the emission point specific limitations, whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1297(b), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1297(c).
 - (3) For a source complying with the source-wide emission limitation, whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1299(a), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1299(b).
 - (4) A description of how HAP ABA and/or polyol added at the mixhead will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(b)(5)(i) through (iv) shall be submitted.
 - (5) Notification of the intent to use a recovery device to comply with the provisions of 40 CFR 63.1297 or 40 CFR 63.1299.
 - (6) For slabstock affected sources complying with 40 CFR 63.1297 or 40 CFR 63.1299 using a recovery device, the continuous recovered HAP ABA monitoring and record keeping program, developed in accordance with 40 CFR 63.1303(c).

- (7) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA in a storage vessel shall be determined.
- (8) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA added to a storage vessel during a delivery will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(e)(4)(i) through (iv) shall be submitted.
- (9) If the Administrator does not notify the owner or operator of objections to an alternative monitoring program submitted in accordance with (c)(4) or (c)(6) above, or a recovered HAP ABA monitoring and record keeping program submitted in accordance with (c)(7) above, the program shall be deemed approved 45 days after its receipt by the Administrator.
- (d) Notification of compliance status.

The Permittee shall submit a notification of compliance status report no later than 180 days after the compliance date. For slabstock affected sources, this report shall contain the information listed in paragraphs (d)(1) and (2) below, as applicable. This report shall contain the information listed in paragraph (d)(3) for rebond foam processes.

 - (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
 - (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump.
 - (3) A statement that the rebond foam affected source is in compliance with 40 CFR 63.1301, or that rebond processes at an affected source are in compliance with 40 CFR 63.1301.
- (e) Semiannual reports.

The Permittee shall submit a report containing the information specified in paragraphs (e)(1) through (4) below semiannually no later than 60 days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date that the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date that the Notification of Compliance Status Report is due.

 - (1) For slabstock affected sources complying with the rolling annual compliance provisions of 40 CFR 63.1299, the allowable and actual HAP ABA emissions (or allowable and actual source-wide HAP emissions) for each of the 12-month periods ending on each of the six months in the reporting period. This information is not required to be included in the initial semi-annual compliance report.
 - (2) For sources complying with the storage vessel provisions of 40 CFR 63.1294(a) using a carbon adsorption system, unloading events that occurred after breakthrough was detected and before the carbon was replaced.
 - (3) Any equipment leaks that were not repaired in accordance with 40 CFR 63.1294(b)(2)(iii) and 40 CFR 63.1294(c).
 - (4) Any leaks in vapor return lines that were not repaired in accordance with 40 CFR 63.1294(a)(1)(ii).
- (f) Other reports.
 - (1) Change in selected emission limitation.

The Permittee electing to change their slabstock flexible polyurethane foam emission limitation (from emission point specific limitations to a source-wide emission limitation, or vice versa), selected in accordance with 40 CFR 63.1293, shall notify the Administrator no later than 180 days prior to the change.
 - (2) Change in selected compliance method.

The Permittee changing the period of compliance for 40 CFR 63.1299 (between rolling annual and monthly) shall notify the Administrator no later than 180 days prior to the change.

- (g) Annual compliance certifications.
The Permittee subject to the provisions in 40 CFR 63.1293 through 63.1301 shall submit a compliance certification annually.
- (1) The compliance certification shall be based on information consistent with that contained in 40 CFR 63.1308 of this section, as applicable.
 - (2) A compliance certification required pursuant to a State or local operating permit program may be used to satisfy the requirements of this section, provided that the compliance certification is based on information consistent with that contained in 40 CFR 63.1308 of this section, and provided that the Administrator has approved the State or local operating permit program under part 70 of this chapter.
 - (3) Each compliance certification submitted pursuant to this section shall be signed by a responsible official of the company that owns or operates the affected source.

D.1.20 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.6 and D.1.7 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Source-wide
Parameter: VOC Emissions
Limit: The polyurethane foam production plant shall limit the VOC emissions from the emission units identified as the pourline (EU-PL), flame laminators #1 and #2 (EU-F1, EU-F2), four (4) rebond molding units (EU-R1, EU-R2, EU-R3, EU-R4), three (3) natural gas boilers (EU-B1, EU-B2, EU-B3), adhesive application operations, chemical solvent usage, and the VPF line such that total source-wide VOC potential to emit is less than 250 tons per twelve (12) consecutive month period.

YEAR: _____

Month	VOC Emissions (tons)	VOC Emissions (tons)	VOC Emissions (tons/year)
	This month	Previous 11 months	12 Month Total

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Pourline (EU-PL) and VPF line
Parameter: Total VOC emissions shall be limited to 164.64 tons per twelve (12) consecutive month period.

Limit: Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate as determined in 1990 stack testing;
- (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:
VOC emissions from pourline (EU-PL) (tons) = Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs
VOC emissions from VPF line (tons) = Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon adsorber on VPF line)
- (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:
VOC emissions from VPF line (tons) = TDI or MDI usage (lbs) x 0.0016% x 1 ton / 2000 lbs x (1 - overall TDI and MDI control efficiency of carbon adsorber on VPF line)
where: TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight)
- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and
- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.

YEAR: _____

Month	Total Board Ft. of Foam Produced at VPF Line This Month	Total VOC Emissions from Pourline and VPF Line This Month (tons)	Total VOC Emissions from Pourline and VPF Line Previous 11 months (tons)	12 Month Total VOC Emissions from Pourline and VPF Line (tons/yr)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Flame Laminator #2 (EU-F2)
Parameter: VOC
Limit: The total emissions of VOC from the facility identified as Flame Laminator #2 (EU-F2) shall be limited to less than 25.0 tons VOC per twelve (12) consecutive month period, which is equivalent to an operating hour limitation of 7,380 hours per twelve (12) consecutive month period, so that 326 IAC 8-1-6 does not apply. Based on a VOC emission rate of 6.5 pounds per hour, as determined in the March, 1995 stack test of a similar unit at another Foamex, L.P. source.

YEAR: _____

Month	Column 1	Column 2	Column 1 x Column 2
	Operating hours	6.5 lbs VOC per hour; or latest stack test result	VOC Emissions (tons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: VPF line
Parameter: VOC emissions
Limit: The production of polyurethane foam in the VPF line shall be limited to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber. The carbon adsorber for control of VOC emissions shall be in operation at all times that the VPF line is in operation.

YEAR: _____

Month	Total Board Ft. of Foam Produced this month	Total VOC Emissions this month (tons)	Total VOC Emissions Previous 11 months (tons)	12 Month Total VOC Emissions (tons/yr)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Significant Source Modification and Part 70 Significant Permit Modification

Source Name:	Foamex, L.P.
Source Location:	2211 South Wayne Street, Auburn, Indiana 46706
County:	Dekalb
Source Modification No.:	033-13706-00047
Permit Modification No.:	033-14184-00047
SIC Code:	3086
Permit Reviewer:	Trish Earls/EVP

On May 17, 2001, the Office of Air Quality (OAQ) had a notice published in the Auburn Evening Star, Auburn, Indiana, stating that Foamex, L.P. had applied for a Significant Source Modification to construct a new Variable Pressure Foaming (VPF) line to their existing flexible Polyurethane Foam Production plant. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On June 1, 2001, Cheryl Buehring of RTP Environmental submitted comments on behalf of Foamex, L.P. on the proposed permit. The summary of the comments and responses is as follows:

Comment #1

There is one technical correction to the permit that Foamex would like to call attention to. The calculation for VOC emissions from the TDI/MDI compounds from the VPF line is not correct. These compounds are primarily consumed in the foam reaction and become part of the foam structure. Only a small portion (0.0016%) of the compounds is released as a VOC. This calculation appears on page 32a of 41, D.1.6.(a)(3), page 32c of 41, D.1.7.(b)(2)(B) and page 39 of 41, (3). The 0.0016% figure is detailed in the calculations which were submitted with the permit application.

The calculation should read:

VOC emissions from VPF line (tons) = TDI/MDI usage (lbs) x 0.0016% x 1 ton / 2000 lbs x (1 - overall
TDI and MDI control efficiency of carbon adsorber on VPF line)

The TDI/MDI usage in pounds could be represented by the calculation of TDI/MDI pre-polymer (gal) x density (lb/gal) x TDI or MDI % (weight), if this is how IDEM prefers to have the usage shown.

Response #1

Conditions D.1.6 and D.1.7 are revised to read as follows:

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 2-2] [40 CFR 52.21]

The polyurethane foam production plant shall limit the VOC emissions from the emission units identified as the pourline (EU-PL), flame laminators #1 and #2 (EU-F1, EU-F2), four (4) rebond molding units (EU-R1, EU-R2, EU-R3, EU-R4), three (3) natural gas boilers (EU-B1, EU-B2, EU-B3) identified in Section D.2, adhesive application operations, chemical solvent usage, and the VPF line such that total source-wide VOC potential to emit is less than 250 tons per twelve (12) consecutive month period:

- (a) The total VOC usage at the pourline facility identified as (EU-PL) and the VPF line shall be limited such that VOC emissions do not exceed 164.64 tons per twelve (12) consecutive month period. Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate;
- (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:

VOC emissions from pourline (EU-PL) (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs

VOC emissions from VPF line (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon adsorber on VPF line)

- (A) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.
- (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
TDI or MDI containing pre-polymer usage (gal lbs) x density (lbs/gal) x TDI or MDI % (weight) 0.0016% x 1 ton / 2000 lbs x (1 - overall TDI and MDI control efficiency of carbon adsorber on VPF line)

where:

TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight)

- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and
- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.

- (b) The VOC emissions from Flame Laminator #2 (EU-F2) shall be limited to less than 25.0 tons per year based on the following:
 - (1) This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit potential VOC emissions from EU-F2 to less than 25.0 tons per year.
- (c) Flame Laminator #1 (EU-F1) emissions shall be based on a VOC emission rate of 6.5 pounds per hour. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from EU-F1.
- (d) The VOC emissions from the four (4) rebond molding facilities (EU-R1,EU-R2,EU-R3, EU-R4) are based on a total emission factor of 0.14 lbs VOC/hr. This factor shall be used when calculating VOC emissions. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from the four (4) rebond molding facilities (EU-R1, EU-R2, EU-R3, EU-R4).

Compliance with these conditions shall limit source-wide VOC emissions to less than 250 tons per year and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.7 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

- (a) The facility identified as Flame Laminator #2 (EU-F2) shall be limited to no more than 7,380 hours of operation per twelve (12) consecutive month period. This operating limit is required to limit the potential to emit VOC to less than 25.0 tons per year to render the requirements of 326 IAC 8-1-6 (General Reduction Requirements) not applicable.
 - (1) This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit the potential to emit VOC from EU-F2 to less than 25.0 tons per year.
- (b) Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Best Available Control Technology (BACT) for the new VPF line will be following:
 - (1) Operation of the carbon adsorber to control VOC emissions from the VPF line at all times that the VPF line is in operation. The carbon adsorber shall operate at a minimum TDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.
 - (2) The production of polyurethane foam in the VPF line shall be limited to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber.

Emissions shall be calculated using the following:

- (A) VOC emissions from amine catalyst usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =

Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight)
x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon
adsorber on VPF line)

- (i) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.

- (B) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
TDI or MDI containing pre-polymer usage (gal lbs) x density (lbs/gal) x
TDI or MDI % (weight) **0.0016%** x 1 ton / 2000 lbs x (1 - overall TDI and
MDI control efficiency of carbon adsorber on VPF line)

where:

**TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage
(gal) x density (lbs/gal) x TDI or MDI % (weight)**

- (C) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.

The report form on page 39 of 41 of the Part 70 permit is also revised to reflect the above formula changes as shown on the following page.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY

COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Pourline (EU-PL) and VPF line
Parameter: Total VOC emissions shall be limited to 164.64 tons per twelve (12) consecutive month period.

Limit: Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate as determined in 1990 stack testing;
- (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:

$$\text{VOC emissions from pourline (EU-PL) (tons)} = \text{Amine catalyst usage (gal)} \times \text{density (lbs/gal)} \times \text{tertiary amine \% (weight)} \times 1 \text{ ton} / 2000 \text{ lbs}$$

$$\text{VOC emissions from VPF line (tons)} = \text{Amine catalyst usage (gal)} \times \text{density (lbs/gal)} \times \text{tertiary amine \% (weight)} \times 1 \text{ ton} / 2000 \text{ lbs} \times (1 - \text{overall tertiary amine control efficiency of carbon adsorber on VPF line})$$
- (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:

$$\text{VOC emissions from VPF line (tons)} = \text{TDI or MDI containing pre-polymer usage (gal lbs)} \times \text{density (lbs/gal)} \times \text{TDI or MDI \% (weight)} \times 1 \text{ ton} / 2000 \text{ lbs} \times (1 - \text{overall TDI and MDI control efficiency of carbon adsorber on VPF line})$$

where: TDI or MDI usage (lbs) = TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight)
- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and
- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.

YEAR:

Month	Total Board Ft. of Foam Produced at VPF Line This Month	Total VOC Emissions from Pourline and VPF Line This Month (tons)	Total VOC Emissions from Pourline and VPF Line Previous 11 months (tons)	12 Month Total VOC Emissions from Pourline and VPF Line (tons/yr)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	Foamex, L.P.
Source Location:	2211 South Wayne Street, Auburn, Indiana 46706
County:	Dekalb
SIC Code:	3086
Operation Permit No.:	T 033-7625-00047
Operation Permit Issuance Date:	November 11, 1998
Significant Source Modification No.:	SSM033-13706-00047
Permit Reviewer:	Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed a modification application from Foamex, L.P. relating to the construction and operation of a new Variable Pressure Foaming (VPF) line being added to their existing flexible Polyurethane Foam Production plant.

History

On January 5, 2001, Foamex, L.P. submitted an application to the OAQ requesting to add the following emission unit to their existing source:

- (a) one (1) Variable Pressure Foaming (VPF) line, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride.

The source has also requested that the responsible official be changed from Adrien Bobeck to Steve Setzer. Foamex, L.P. was issued a Part 70 permit on November 11, 1998.

Since this source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production"), the OAQ has determined that the requirements of this rule that apply to the new unit being constructed as well as the requirements of the rule that apply to the existing units at the source will be included in this Significant Source Modification.

Existing Approvals

The source was issued a Part 70 Operating Permit T033-7625-00047 on November 11, 1998. No other approvals have been issued to this source since issuance of the Part 70 Operating Permit.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the carbon adsorber be considered as an integral part of the VPF line:

- (a) The new VPF unit is equipped with a carbon adsorber that is part of the exhaust system. The exhaust system is a vacuum cooling system that is necessary to evacuate the chamber of the VPF unit to produce the foam. The source stated that the blower and two carbon beds associated with it are one unit and there is no bypass for the carbon adsorber. Therefore, they state that the carbon adsorber is integral to the process.
- (b) The addition of the carbon adsorption system is a voluntary control method that is done outside of the proposed MACT requirements for foam production.
- (c) The carbon adsorber is necessary to control primarily TDI or MDI emissions. When maintenance or repair work on the vacuum of the VPF unit needs to be performed, these emissions must be at levels that are safe for workers to be exposed to. Therefore, the carbon adsorber should be considered integral to the process.

IDEM, OAQ has evaluated the justifications and determined that the carbon adsorber will not be considered as an integral part of the VPF line. This is because although the VPF unit is designed in such a way that the carbon adsorber is in operation at all times that the unit is operating, the unit could be theoretically designed to operate without the control equipment. Also, since the carbon adsorber is used only to control emissions, and does not serve any other function in the foam production process, it is not considered an integral part of the foam production process. Therefore, the permitting level will be determined using the potential to emit before control by the carbon adsorber.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
39	VPF Line	28	0.83	5,400	100
40	VPF Line	28	1.0	5,400	100

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 5, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 3).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	109.6
CO	0.0
NO _x	0.0

HAP's	Potential To Emit (tons/year)
TDI	less than 10
MDI	less than 10
Methylene Chloride	less than 10
TOTAL	less than 25

Justification for Modification

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is greater than 25 tons per year. Therefore, the Title V permit is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(g). This modification will give the source approval to construct the new emission unit. A Significant Permit Modification will be issued and will incorporate the source modification into the Part 70 permit and give the source approval to operate the new emission unit.

This source is not eligible for a Part 70 Minor Source Modification under 326 IAC 2-7-10.5(d)(5) because although the source is limiting the production of foam which limits VOC emissions from the VPF, this limitation alone does not limit VOC emissions to less than 25 tons per year. The carbon adsorber on the VPF is also necessary for VOC emissions to be limited to less than 25 tons per year. Therefore, the source does not satisfy the criteria under 326 IAC 2-7-10.5(d)(5)(A), (B), or (E).

County Attainment Status

The source is located in Dekalb County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Dekalb County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	less than 250
PM-10	less than 250
SO ₂	less than 250
VOC	less than 250
CO	less than 250
NO _x	less than 250

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the Title V permit (T033-7625-00047) issued to the source on November 11, 1998.

Potential to Emit After Controls for the Modification

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the modification.

	Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
VPF Line using TDI and amines	0.0	0.0	0.0	14.7	0.0	0.0	0.01	0.01
VPF Line using MDI and Methylene Chloride	0.0	0.0	0.0	0.0016	0.0	0.0	<10	<25
Total Emissions	0.0	0.0	0.0	14.7	0.0	0.0	<10	<25
PSD Major Modification Threshold	250	250	250	250	250	250	n/a	n/a

Note: The VPF line has the ability to produce foam using the variable pressure foaming method using TDI and amines, which does not use a blowing agent (i.e. methylene chloride), or pouring the foam using MDI and methylene chloride as the blowing agent. Therefore, total emissions represent the worst case emissions of the two methods. When using the pouring method, the usage of methylene chloride will not exceed 10 tons per year. When the variable pressure foaming method is in use, VOC emissions will be controlled by a carbon adsorber and the production of foam shall not exceed 800,000,000 board feet per year pursuant to the requirements of 326 IAC 8-1-6.

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR

52.21, the PSD requirements do not apply.

Federal Rule Applicability

1. There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this modification.
2. The new VPF line, the existing flat block pour line (ID EU-PL), the four (4) existing Rebond mold units (ID EU-R1, EU-R2, EU-R3, and EU-R4), and the TDI/MDI storage tanks (Insignificant Activities) are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production"). Pursuant to 40 CFR 63.1290(c)(1), the two (2) existing flame laminators (ID EU-F1, and EU-F2) are not subject to the requirements of this rule since each of the laminators are processes exclusively dedicated to the fabrication of flexible polyurethane foam.

Since this source was constructed prior to the promulgation of this rule, it is an existing source pursuant to 40 CFR 63.2 for the purposes of this rule. A cost analysis was performed to determine whether or not the addition of the new VPF line to this source should be considered a reconstruction. Based on cost data submitted by Foamex, the fixed capital cost of the existing affected source, which includes the building, machinery and equipment associated with foam production, is \$26 million. The fixed capital cost of the new VPF line is \$6.5 million. Therefore, since the cost of the new VPF line does not exceed 50% of the cost of the existing affected source, the addition of the new VPF line does not constitute a reconstruction of the existing source, therefore, the new VPF line is part of the existing source.

Pursuant to 40 CFR 63.1291(a), the new VPF line, the existing flat block pour line, the four (4) existing Rebond mold units, and the TDI/MDI storage tanks shall be in compliance with all provisions of this rule no later than October 8, 2001. The foam manufacturing process at this source is a slabstock polyurethane foam manufacturing operation.

Pursuant to 40 CFR 63.1293, the Permittee shall comply with 40 CFR 63.1294 and either 40 CFR 63.1293(a) or (b). This source has chosen to comply with 40 CFR 63.1293(b). Pursuant to 40 CFR 63.1293(b), for sources that use no more than one (1) HAP as an auxiliary blowing agent (ABA) and an equipment cleaner, the source-wide emission limitation in 40 CFR 63.1299 applies.

Pursuant to 40 CFR 63.1294, this source shall comply with the provisions of the section which are as follows:

- (a) Diisocyanate storage vessels.
Diisocyanate storage vessels shall be equipped with either a system meeting the requirements in paragraph (a)(1) below, or a carbon adsorption system meeting the requirements of paragraph (a)(2) below.
 - (1) The storage vessel shall be equipped with a vapor return line from the storage vessel to the tank truck or rail car that is connected during unloading.
 - (i) During each unloading event, the vapor return line shall be inspected for leaks by visual, audible, or any other detection method.
 - (ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than the subsequent unloading event.
 - (2) The storage vessel shall be equipped with a carbon adsorption system, meeting the monitoring requirements of 40 CFR 63.1303(a), that routes

displaced vapors through activated carbon before being discharged to the atmosphere. The Permittee shall replace the existing carbon with fresh carbon upon indication of breakthrough before the next unloading event.

- (b) Transfer pumps in diisocyanate service.
Each transfer pump in diisocyanate service shall meet the requirements of paragraph (b)(1) or (b)(2) below.
 - (1) The pump shall be a sealless pump; or
 - (2) The pump shall be a submerged pump system meeting the requirements in paragraphs (b)(2)(i) through (iii) listed below.
 - (i) The pump shall be completely immersed in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.
 - (ii) The pump shall be visually monitored weekly to detect leaks,
 - (iii) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (b)(2)(iii)(A) and (B) below, except as provided in paragraph (d) below.
 - (A) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.
 - (B) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:
 - (1) Tightening of packing gland nuts.
 - (2) Ensuring that the seal flush is operating at design pressure and temperature.
- (c) Other components in diisocyanate service.
If evidence of a leak is found by visual, audible, or any other detection method, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) below. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (d) Delay of repair.
 - (1) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in diisocyanate service.
 - (2) Delay of repair for valves and connectors is also allowed if:
 - (i) The owner or operator determines that diisocyanate emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
 - (ii) The purged material is collected and destroyed or recovered in a control device when repair procedures are effected.
 - (3) Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a sealless pump, and repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

Pursuant to 40 CFR 63.1299, this source complying with the source-wide emission limitation option provided in 40 CFR 63.1293(b) shall control HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line (which includes the existing flat block pour line and the new VPF line), and equipment cleaning HAP emissions in accordance with the provisions in 40 CFR 63.1299. Compliance shall be determined on a rolling annual basis in accordance with 40 CFR 63.1299(a). As an alternative, the Permittee can determine compliance monthly, as described in 40 CFR 63.1299(b). This source has chosen to comply with 63.1299 on a rolling annual basis in accordance with the procedures listed below. The source has also chosen not to use a recovery device to comply with 40 CFR 63.1299.

- (a) Rolling annual compliance.
Under the rolling annual compliance provisions, actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions are compared to allowable source-wide emissions for each consecutive 12-month period. The allowable source-wide HAP emission level is calculated based on the production for the 12-month period, resulting in a potentially different allowable level for each 12-month period. While compliance is on an annual basis, compliance shall be determined monthly for the preceding 12-month period. The actual source-wide HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(c)(1) through (4), listed in paragraphs (b)(1) through (4) below. The allowable HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(d), listed in paragraph (c) below.
- (b) Procedures for determining actual source-wide HAP emissions.
The actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions shall be determined using the procedures in 40 CFR 63.1299. Actual source-wide HAP emissions for each individual month shall be determined using the procedures specified in paragraphs (b)(1) through (3) below.
 - (1) Actual source-wide HAP emissions for a month shall be determined using Equation 5 and the information determined in accordance with paragraphs (b)(2) and (3) below.

$$PWE_{\text{actual}} = \sum_i^n (ST_{i, \text{begin}} - ST_{i, \text{end}} + ADD_i) \quad (\text{Equation 5})$$

Where:

- | | | |
|------------------------|---|---|
| PWE_{actual} | = | Actual source-wide HAP ABA and equipment cleaning HAP emissions for a month, pounds/month. |
| n | = | Number of HAP ABA storage vessels. |
| $ST_{i, \text{begin}}$ | = | Amount of HAP ABA in storage vessel i at the beginning of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below. |
| $ST_{i, \text{end}}$ | = | Amount of HAP ABA in storage vessel i at the end of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below. |
| ADD_i | = | Amount of HAP ABA added to storage vessel i during the month, pounds, determined in accordance with the procedures listed in paragraph (b)(3) below. |
- (2) The amount of HAP ABA in a storage vessel shall be determined by monitoring the HAP ABA level in the storage vessel in accordance with 40 CFR 63.1303(d).

- (3) The amount of HAP ABA added to a storage vessel for a given month shall be the sum of the amounts of all individual HAP ABA deliveries that occur during the month. The amount of each individual HAP ABA delivery shall be determined in accordance with 40 CFR 63.1303(e).
- (4) Actual source-wide HAP emissions for each consecutive 12-month period shall be calculated as the sum of actual monthly source-wide HAP emissions for each of the individual 12 months in the period, calculated in accordance with paragraphs (b)(1) through (3) above.
- (c) Allowable source-wide HAP emissions for a consecutive 12-month period shall be calculated as the sum of allowable monthly source-wide HAP emissions for each of the individual 12 months in the period. Allowable source-wide HAP emissions for each individual month shall be calculated using Equation 6.

$$\text{emiss}_{\text{allow, month}} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(\text{limit}_i)(\text{polyol}_i)}{100} \right) j \quad (\text{Equation 6})$$

Where:

$\text{emiss}_{\text{allow, month}}$ = Allowable HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions from the slabstock foam production source for the month, pounds.

m = Number of slabstock foam production lines.

polyol_i = Amount of polyol used in the month in the production of foam grade i on foam production line j , determined in accordance with 40 CFR 63.1303(b), pounds.

n = Number of foam grades produced in the month on foam production line j .

limit_i = HAP ABA formulation limit for foam grade i , parts HAP ABA per 100 parts polyol. The HAP ABA formulation limits are determined in accordance with 40 CFR 63.1297(d).

This source is not subject to the requirements of 40 CFR 63.1300 for molded flexible polyurethane foam production since there are no molded flexible polyurethane foam production processes at this source.

The requirements of 40 CFR 63.1301 apply to the four (4) existing Rebond mold units. Pursuant to 40 CFR 63.1301, the Permittee shall comply with the provisions in paragraphs (a) and (b) below.

- (a) A HAP or HAP-based material shall not be used as an equipment cleaner at a rebond foam source.
- (b) A HAP-based mold release agent shall not be used in a rebond foam source.

Pursuant to 40 CFR 63.1303, the Permittee shall comply with each applicable monitoring provision of 40 CFR 63.1303 as listed below.

- (a) Monitoring requirements for storage vessel carbon adsorption systems.
The Permittee using a carbon adsorption system to meet the requirements of 40 CFR 63.1294(a) shall monitor the concentration level of the HAP or the organic compounds in the exhaust vent stream (or outlet stream exhaust) from the carbon adsorption system at the frequency specified in (a)(1) or (2) below in accordance with either (a)(3) or (4) below.
 - (1) The concentration level of HAP or organic compounds shall be monitored during each unloading event, or once per month during an unloading event if multiple unloading events occur in a month.

- (2) As an alternative to monthly monitoring, the Permittee can set the monitoring frequency at an interval no greater than 20 percent of the carbon replacement interval, which is established using a design analysis described below in paragraphs (a)(2)(i) through (iii).
 - (i) The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature.
 - (ii) The design analysis shall establish the outlet organic concentration level, the capacity of the carbon bed, and the working capacity of activated carbon used for the carbon bed, and
 - (iii) The design analysis shall establish the carbon replacement interval based on the total carbon working capacity of the carbon adsorption system and the schedule for filling the storage vessel.
- (3) Measurements of HAP concentration shall be made using 40 CFR part 60, appendix A, Method 18. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
- (4) Measurements of organic compounds shall be made using 40 CFR part 60, Appendix A, Method 25A. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
- (b) Monitoring for HAP ABA and polyol added to the foam production line (which includes the existing flat block pour line and the new VPF line) at the mixhead.
 - (1) The Permittee shall comply with the provisions in paragraph (b)(1)(i) below.
 - (i) The Permittee shall continuously monitor the amount of polyol added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2) through (4) below.
 - (2) The owner or operator shall monitor either:
 - (i) Pump revolutions; or
 - (ii) Flow rate.
 - (3) The device used to monitor the parameter from paragraph (b)(2) shall have an accuracy to within +/- 2.0 percent of the HAP ABA being measured, and shall be calibrated initially, and periodically, in accordance with paragraph (b)(3)(i) or (ii) below.
 - (i) For polyol pumps, the device shall be calibrated at least once each 6 months.
 - (ii) For HAP ABA pumps, the device shall be calibrated at least once each month.
 - (4) Measurements must be recorded at the beginning and end of the production of each grade of foam within a run of foam.
- (c) Monitoring of HAP ABA in a storage vessel.

The amount of HAP ABA in a storage vessel shall be determined weekly by monitoring the HAP ABA level in the storage vessel using a level measurement device that meets the criteria described in paragraphs (c)(1) and either (c)(2) or (c)(3) below.

 - (1) The level measurement device must be calibrated initially and at least once per year thereafter.
 - (2) With the exception of visually-read level measurement devices (i.e., gauge glass), the device must have either a digital or printed output.
 - (3) If the level measurement device is a visually-read device, the device must be equipped with permanent graduated markings to indicate HAP ABA level in the storage tank.
- (d) Monitoring of HAP ABA added to a storage vessel.

The amount of HAP ABA added to a storage vessel during a delivery shall be determined in accordance with either paragraphs (d)(1), (2), or (3) of this section.

- (1) The volume of HAP ABA added to the storage vessel shall be determined by recording the volume in the storage vessel prior to the delivery and the volume after the delivery, provided that the storage tank level measurement device used to determine the levels meets the criteria in paragraph (c) above.
- (2) The volume of HAP ABA added to the storage vessel shall be determined by monitoring the flow rate using a device with an accuracy of +/- 2.0 percent, and calibrated initially and at least once each six months thereafter.
- (3) The weight of HAP ABA added to the storage vessel shall be calculated as the difference of the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading into the storage vessel. The weight shall be determined using a scale meeting the requirements of either paragraph (d)(3)(i) or (ii) below.
 - (i) A scale approved by the State or local agencies using the procedures contained in Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998 (incorporation by reference--see 40 CFR 63.14).
 - (ii) A scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician.

Pursuant to 40 CFR 63.1304, the Permittee shall use the test methods listed below, as applicable, to demonstrate compliance with this subpart.

- (a) Test method to determine foam properties.

The IFD and density of each grade of foam produced during each run of foam shall be determined using ASTM D3574-91, Standard Test Methods for Flexible Cellular Materials--Slab, Bonded, and Molded (incorporation by reference--see 40 CFR 63.14), using a sample of foam cut from the center of the foam bun. The maximum sample size for which the IFD and density is determined shall not be larger than 24 inches by 24 inches by 4 inches. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to determine the IFD and density in accordance with this paragraph.

Pursuant to 40 CFR 63.1306, the Permittee shall comply with each applicable reporting provision in this section. The required Precompliance report for this source was received by IDEM on 10/10/00.

- (a) Initial notification.

The Permittee shall submit an initial notification in accordance with 40 CFR 63.9(b).
- (b) Application for approval of construction or reconstruction.

The Permittee shall submit an application for approval of construction or reconstruction in accordance with the provisions of 40 CFR 63.5(d).
- (c) Precompliance report.

The Permittee shall submit a precompliance report no later than 12 months before the compliance date. This report shall contain the information listed in paragraphs (c)(1) through (c)(8) below, as applicable.

 - (1) Whether the source will comply with the emission point specific limitations described in 40 CFR 63.1293(a), or with the source-wide emission limitation described in 40 CFR 63.1293(b).
 - (2) For a source complying with the emission point specific limitations,

- whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1297(b), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1297(c).
- (3) For a source complying with the source-wide emission limitation, whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1299(a), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1299(b).
 - (4) A description of how HAP ABA and/or polyol added at the mixhead will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(b)(5)(i) through (iv) shall be submitted.
 - (5) Notification of the intent to use a recovery device to comply with the provisions of 40 CFR 63.1297 or 40 CFR 63.1299.
 - (6) For slabstock affected sources complying with 40 CFR 63.1297 or 40 CFR 63.1299 using a recovery device, the continuous recovered HAP ABA monitoring and record keeping program, developed in accordance with 40 CFR 63.1303(c).
 - (7) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA in a storage vessel shall be determined.
 - (8) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA added to a storage vessel during a delivery will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(e)(4)(i) through (iv) shall be submitted.
 - (9) If the Administrator does not notify the owner or operator of objections to an alternative monitoring program submitted in accordance with (c)(4) or (c)(6) above, or a recovered HAP ABA monitoring and record keeping program submitted in accordance with (c)(7) above, the program shall be deemed approved 45 days after its receipt by the Administrator.
- (d) Notification of compliance status.
The Permittee shall submit a notification of compliance status report no later than 180 days after the compliance date. For slabstock affected sources, this report shall contain the information listed in paragraphs (d)(1) and (2) below, as applicable. This report shall contain the information listed in paragraph (d)(3) for rebond foam processes.
- (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
 - (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump.
 - (3) A statement that the rebond foam affected source is in compliance with 40 CFR 63.1301, or that rebond processes at an affected source are in compliance with 40 CFR 63.1301.
- (e) Semiannual reports.
The Permittee shall submit a report containing the information specified in paragraphs (e)(1) through (4) below semiannually no later than 60 days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date that the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date that the Notification of Compliance Status Report is due.

- (1) For slabstock affected sources complying with the rolling annual

- compliance provisions of 40 CFR 63.1299, the allowable and actual HAP ABA emissions (or allowable and actual source-wide HAP emissions) for each of the 12-month periods ending on each of the six months in the reporting period. This information is not required to be included in the initial semi-annual compliance report.
- (2) For sources complying with the storage vessel provisions of 40 CFR 63.1294(a) using a carbon adsorption system, unloading events that occurred after breakthrough was detected and before the carbon was replaced.
 - (3) Any equipment leaks that were not repaired in accordance with 40 CFR 63.1294(b)(2)(iii) and 40 CFR 63.1294(c).
 - (4) Any leaks in vapor return lines that were not repaired in accordance with 40 CFR 63.1294(a)(1)(ii).
- (f) Other reports.
- (1) Change in selected emission limitation.
The Permittee electing to change their slabstock flexible polyurethane foam emission limitation (from emission point specific limitations to a source-wide emission limitation, or vice versa), selected in accordance with 40 CFR 63.1293, shall notify the Administrator no later than 180 days prior to the change.
 - (2) Change in selected compliance method.
The Permittee changing the period of compliance for 40 CFR 63.1299 (between rolling annual and monthly) shall notify the Administrator no later than 180 days prior to the change.
- (g) Annual compliance certifications.
The Permittee subject to the provisions in 40 CFR 63.1293 through 63.1301 shall submit a compliance certification annually.
- (1) The compliance certification shall be based on information consistent with that contained in 40 CFR 63.1308 of this section, as applicable.
 - (2) A compliance certification required pursuant to a State or local operating permit program may be used to satisfy the requirements of this section, provided that the compliance certification is based on information consistent with that contained in 40 CFR 63.1308 of this section, and provided that the Administrator has approved the State or local operating permit program under part 70 of this chapter.
 - (3) Each compliance certification submitted pursuant to this section shall be signed by a responsible official of the company that owns or operates the affected source.

Pursuant to 40 CFR 63.1307, the applicable records designated in paragraphs (a) through (c) below shall be maintained by the Permittee.

- (a) Storage vessel records.
- (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
 - (2) For storage vessels complying through the use of a carbon adsorption system, the records listed in paragraphs (a)(2)(i) or (ii), and paragraph (a)(2)(iii) of this section.
 - (i) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading, when the device is monitored in accordance with 40 CFR 63.1303(a); or
 - (ii) For affected sources monitoring at an interval no greater than 20 percent of the carbon replacement interval, in accordance with 40 CFR 63.1303(a)(2), the records listed in paragraphs (a)(2)(ii)(A) and (B) below.
- (A) Records of the design analysis, including all the

- information listed in 40 CFR 63.1303(a)(2)(i) through (iii), and
 - (B) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading.
 - (iii) Date when the existing carbon in the carbon adsorption system is replaced with fresh carbon.
 - (3) For storage vessels complying through the use of a vapor return line, paragraphs (a)(3)(i) through (iii) below.
 - (i) Dates and times when each unloading event occurs and each inspection of the vapor return line for leaks occurs.
 - (ii) Records of dates and times when a leak is detected in the vapor return line.
 - (iii) Records of dates and times when a leak is repaired.
- (b) Equipment leak records.
- (1) A list of components as specified below in paragraph (b)(1)(i).
 - (i) For all affected sources, a list of components in diisocyanate service,
 - (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump and the date of installation.
 - (3) When a leak is detected as specified in 40 CFR 63.1294(b)(2)(ii) and 40 CFR 63.1294(c), the requirements listed in paragraphs (b)(3)(i) and (ii) below apply:
 - (i) Leaking equipment shall be identified in accordance with the requirements in paragraphs (b)(3)(i)(A) and (B) below.
 - (A) A readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
 - (B) The identification on equipment, other than a valve, may be removed after it has been repaired.
 - (ii) The information in paragraphs (b)(3)(ii)(A) through (H) shall be recorded for leaking components.
 - (A) The instrument and operator identification numbers and the equipment identification number.
 - (B) The date the leak was detected and the dates of each attempt to repair the leak.
 - (C) Repair methods applied in each attempt to repair the leak.
 - (D) The words "above leak definition" if the maximum instrument reading measured by the methods specified in 40 CFR 63.1304(a) after each repair attempt is equal or greater than the leak definitions for the specified equipment.
 - (E) The words "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (F) The expected date of the successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (G) The date of successful repair of the leak.
 - (H) The date the identification is removed.
- (c) HAP ABA records.

- (1) Source-wide limitations - rolling annual compliance and monthly compliance alternative records.
The Permittee complying with the source-wide limitations of 40 CFR 63.1299, and the rolling annual compliance provisions in 40 CFR 63.1299(a), shall maintain the records listed in paragraphs (c)(1)(i) through (c)(1)(vii) below.
 - (i) Daily records of the information listed in paragraphs (c)(1)(i)(A) through (C) of this section.
 - (A) A log of foam runs each day. For each run, the log shall include a list of the grades produced during the run.
 - (B) Results of the density and IFD testing for each grade of foam produced during each run of foam, conducted in accordance with the procedures in 40 CFR 63.1304(b). The results of this testing shall be recorded within 10 working days of the production of the foam. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to keep records of the IFD and density.
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the amount of polyol added to the slabstock foam production line at the mixhead for each grade produced during each run of foam, determined in accordance with 40 CFR 63.1303(b).
 - (ii) For sources complying with the source-wide emission limitation, weekly records of the storage tank level, determined in accordance with 40 CFR 63.1303(d).
 - (iii) Monthly records of the information listed below in paragraphs (c)(1)(iii)(A) through (E).
 - (A) A listing of all foam grades produced during the month,
 - (B) For each foam grade produced, the residual HAP formulation limitation, calculated in accordance with 40 CFR 63.1297(d).
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the total amount of polyol used in the month for each foam grade produced.
 - (D) The total allowable HAP ABA and equipment cleaning emissions for the month, determined in accordance with 40 CFR 63.1297(b)(2).
 - (E) The total actual source-wide HAP ABA emissions for the month, determined in accordance with 40 CFR 63.1299(c)(1), along with the information listed in paragraphs (c)(1)(iii)(E)(1) and (2) below.
 - (1) The amounts of HAP ABA in the storage vessel at the beginning and end of the month, determined in accordance with 40 CFR 63.1299(c)(2); and
 - (2) The amount of each delivery of HAP ABA to the storage vessel, determined in accordance with 40 CFR 63.1299(c)(3).
 - (iv) Each source complying with the rolling annual compliance provisions of 40 CFR 63.1299(a) shall maintain the records listed in paragraphs (c)(1)(iv)(A) and (B) below.
 - (A) The sum of the total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous

- 11 months.
- (B) The sum of the total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.
- (v) Records of all calibrations for each device used to measure polyol added at the mixhead, conducted in accordance with 40 CFR 63.1303(b)(3).
- (vi) Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel, conducted in accordance with 40 CFR 63.1303(d)(1).
- (vii) Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of 40 CFR 63.1303(e)(3). For scales meeting the criteria of 40 CFR 63.1303(e)(3)(i), this documentation shall be in the form of written confirmation of the State or local approval. For scales complying with 40 CFR 63.1303(e)(3)(ii), this documentation shall be in the form of a report provided by the registered scale technician.
- (d) The Permittee following the compliance methods in 40 CFR 63.1308(b)(1) and (c)(1) shall maintain records of each use of a vapor return line during unloading, of any leaks detected during unloading, and of repairs of leaks detected during unloading.
- (e) The Permittee subject to 40 CFR 63.1300 or 40 CFR 63.1301 of this subpart shall maintain a product data sheet for each compound other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, which includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each solvent other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance.
- (f) The Permittee subject to 40 CFR 63.1300 or Sec. 63.1301 of this subpart shall maintain a product data sheet for each mold release agent used that includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each mold release agent.

Pursuant to 40 CFR 63.1308,

- (a) For the Permittee, compliance with the requirements listed in paragraphs (a)(1) through (a)(2) below shall mean compliance with the requirements contained in 40 CFR 63.1293 through 63.1301, absent any credible evidence to the contrary.
 - (1) The requirements described in Tables 3, 4, and 5 of Subpart III; and
 - (2) The requirement to submit a compliance certification annually as required under 40 CFR 63.1306(g).
- (b) All slabstock affected sources.
For slabstock affected sources, failure to meet the requirements contained in 40 CFR 63.1294 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (b)(1) through (b)(6) below, as applicable, shall be considered a separate violation.
 - (1) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(1), each unloading event that occurs when the diisocyanate storage vessel is not equipped with a vapor return line from the storage vessel to the tank truck or rail car, each unloading event that occurs when the vapor line is not connected, each unloading event that the vapor line is not inspected for leaks as described in 40 CFR 63.1294(a)(1)(i), each unloading event that occurs after a leak has been detected and not repaired, and each calendar day after a leak is detected, but not repaired as soon as practicable;
 - (2) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2), each unloading event that the diisocyanate

- storage vessel is not equipped with a carbon adsorption system, each unloading event (or each month if more than one unloading event occurs in a month) that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4), and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;
- (3) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2) through the alternative monitoring procedures in 40 CFR 63.1303(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each time that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4) at the interval established in the design analysis, and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;
 - (4) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(1), each calendar day that a transfer pump in diisocyanate service is not a sealless pump;
 - (5) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(2), each calendar day that a transfer pump in diisocyanate service is not submerged as described in 40 CFR 63.1294(b)(2)(i), each week that the pump is not visually monitored for leaks, each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with 40 CFR 63.1294(b)(2)(iii)(B), and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1294(d));
 - (6) For each affected source complying with 40 CFR 63.1294(c), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1296(f)).
- (c) Slabstock affected sources complying with the source-wide emission limitation. For the Permittee complying with the source-wide emission limitation as provided in 40 CFR 63.1293(b), failure to meet the requirements contained in 40 CFR 63.1299 shall be considered a violation of this subpart. Violation of each item listed in paragraph (c)(1) below, as applicable, shall be considered a separate violation.

- (1) For each affected source complying with 40 CFR 63.1299 in accordance with the rolling annual compliance option in 40 CFR 63.1299(a), each calendar day in the 12-month period for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with 40 CFR 63.1303(b)(1)(i), each calendar day in a week in which the amount of HAP ABA in a storage vessel is not determined in accordance with 40 CFR 63.1303(d), each delivery of HAP ABA in which the amount of HAP ABA added to the storage vessel is not determined in accordance with 40 CFR 63.1303(e), each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with 40 CFR 63.1303(b)(3)(i), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with 40 CFR 63.1304(b);
- (d) Molded and rebond foam affected sources.
For the Permittee, a rebond foam affected source, failure to meet the requirements contained in 40 CFR 63.1301 shall be considered a violation of this subpart. Violation of each item listed in the following paragraphs shall be considered a separate violation.
 - (1) For each rebond foam affected source subject to the provisions of 40 CFR 63.1301(a), each calendar day that a HAP-based material is used as an equipment cleaner; and
 - (2) For each rebond foam affected source complying with 40 CFR 63.1301(b), each calendar day that a HAP-based mold release agent is used.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart III.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to 326 IAC 2-2 (PSD) because the source will limit source-wide VOC emissions to less than 250 tons per year. The following operations shall be limited as follows to comply with the source-wide VOC emissions limit:

- (a) Total VOC usage at the existing pourline (EU-PL) and the new VPF line shall be limited such that emissions do not exceed 164.64 tons of VOC per twelve (12) consecutive month period. This limit was based on the following:
 - (1) a TDI emission rate of 0.12 pounds per hour from the existing pourline (EU-PL);
 - (2) use of a carbon adsorber on the new VPF line with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%;
 - (3) a maximum production rate of 800,000,000 board feet of foam per year in the new VPF line; and
 - (4) VOC emissions from the flash-off of tertiary amine catalysts in the existing pourline (EU-PL) and the new VPF line.
- (b) VOC emissions from Flame Laminator #2 (EU-F2) shall be limited to less than 25.0 tons per twelve (12) consecutive month period so that the requirements of 326 IAC 8-1-6 (BACT) do not apply.

These operating limitations combined with potential VOC emissions from other existing

operations at the source, shall limit source-wide VOC emissions to less than 250 tons per twelve (12) consecutive month period.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the potential to emit (PTE) 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). This source is subject to the requirements of the NESHAP, 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production", therefore, the requirements of this rule do not apply.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to new facilities, constructed after January 1, 1980, with potential VOC emissions greater than 25 tons per year. Since potential VOC emissions from the new VPF line before control are greater than 25 tons per year, the new VPF line is subject to this rule. However, VOC emissions from the new VPF line are controlled by a carbon adsorber which has a minimum TDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%. This source will also limit the production of polyurethane foam to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber. The use of the carbon adsorber combined with the production limit is equivalent to an 86.5% reduction of total VOC emissions. Therefore, the OAQ has determined that the use of the carbon adsorber to control VOC emissions from the new VPF line, with a minimum TDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%, combined with the polyurethane foam production limit of a maximum of 800,000,000 board feet per year satisfies the requirements of 326 IAC 8-1-6 for the new VPF line.

Testing Requirements

Testing will be required for the new VPF line since it is a new unit subject to the requirements of a NESHAP and it is a VOC source with a VOC control device which is accepting a VOC synthetic minor limit of less than 25 tons per year to avoid 326 IAC 8-1-6.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The VPF unit has applicable compliance monitoring conditions as specified below:

Pursuant to 40 CFR 63.1303, the Permittee shall comply with each applicable monitoring provision of 40 CFR 63.1303 as listed below.

- (a) Monitoring requirements for storage vessel carbon adsorption systems.
The Permittee using a carbon adsorption system to meet the requirements of 40 CFR 63.1294(a) shall monitor the concentration level of the HAP or the organic compounds in the exhaust vent stream (or outlet stream exhaust) from the carbon adsorption system at the frequency specified in (a)(1) or (2) below in accordance with either (a)(3) or (4) below.
 - (1) The concentration level of HAP or organic compounds shall be monitored during each unloading event, or once per month during an unloading event if multiple unloading events occur in a month.
 - (2) As an alternative to monthly monitoring, the Permittee can set the monitoring frequency at an interval no greater than 20 percent of the carbon replacement interval, which is established using a design analysis described below in paragraphs (a)(2)(i) through (iii).
 - (i) The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature.
 - (ii) The design analysis shall establish the outlet organic concentration level, the capacity of the carbon bed, and the working capacity of activated carbon used for the carbon bed, and
 - (iii) The design analysis shall establish the carbon replacement interval based on the total carbon working capacity of the carbon adsorption system and the schedule for filling the storage vessel.
 - (3) Measurements of HAP concentration shall be made using 40 CFR part 60, appendix A, Method 18. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being

- filled.
- (4) Measurements of organic compounds shall be made using 40 CFR part 60, Appendix A, Method 25A. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
- (b) Monitoring for HAP ABA and polyol added to the foam production line (which includes the existing flat block pour line and the new VPF line) at the mixhead.
- (1) The Permittee shall comply with the provisions in paragraph (b)(1)(i) below.
- (i) The Permittee shall continuously monitor the amount of polyol added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2) through (4) below.
- (2) The owner or operator shall monitor either:
- (i) Pump revolutions; or
- (ii) Flow rate.
- (3) The device used to monitor the parameter from paragraph (b)(2) shall have an accuracy to within ± 2.0 percent of the HAP ABA being measured, and shall be calibrated initially, and periodically, in accordance with paragraph (b)(3)(i) or (ii) below.
- (i) For polyol pumps, the device shall be calibrated at least once each 6 months.
- (ii) For HAP ABA pumps, the device shall be calibrated at least once each month.
- (4) Measurements must be recorded at the beginning and end of the production of each grade of foam within a run of foam.
- (c) Monitoring of HAP ABA in a storage vessel.
The amount of HAP ABA in a storage vessel shall be determined weekly by monitoring the HAP ABA level in the storage vessel using a level measurement device that meets the criteria described in paragraphs (c)(1) and either (c)(2) or (c)(3) below.
- (1) The level measurement device must be calibrated initially and at least once per year thereafter.
- (2) With the exception of visually-read level measurement devices (i.e., gauge glass), the device must have either a digital or printed output.
- (3) If the level measurement device is a visually-read device, the device must be equipped with permanent graduated markings to indicate HAP ABA level in the storage tank.
- (d) Monitoring of HAP ABA added to a storage vessel.
The amount of HAP ABA added to a storage vessel during a delivery shall be determined in accordance with either paragraphs (d)(1), (2), or (3) of this section.
- (1) The volume of HAP ABA added to the storage vessel shall be determined by recording the volume in the storage vessel prior to the delivery and the volume after the delivery, provided that the storage tank level measurement device used to determine the levels meets the criteria in paragraph (c) above.
- (2) The volume of HAP ABA added to the storage vessel shall be determined by monitoring the flow rate using a device with an accuracy of ± 2.0 percent, and calibrated initially and at least once each six months thereafter.
- (3) The weight of HAP ABA added to the storage vessel shall be calculated as the difference of the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading into the storage vessel. The weight shall be

determined using a scale meeting the requirements of either paragraph (d)(3)(i) or (ii) below.

- (i) A scale approved by the State or local agencies using the procedures contained in Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998 (incorporation by reference--see 40 CFR 63.14).
- (ii) A scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician.

These monitoring conditions are necessary to ensure compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production") and 326 IAC 2-7 (Part 70).

Changes Proposed

The changes listed below have been made to the Part 70 Operating Permit (T033-7625-00047). It should also be noted that as of January 1, 2001, the Office of Air Management is now being referred to as the Office of Air Quality. Therefore, all references to the Office of Air Management have been revised to refer to the Office of Air Quality.

1. The words Enhanced New Source Review and the rule cite for ENSR have been removed from the title page of the Part 70 Operating permit. This rule, relating to ENSR, has been repealed. The statement on the title page of the Part 70 permit is revised as follows:

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 ~~and 326 IAC 2-1-3.2~~ as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

2. Condition A.1 (General Information) has been revised to change the responsible official to Steve Setzer. It has also been revised to include the rule cite for the definition of a major source in 326 IAC 2-7. Additionally, "County status" has been changed to "Source Location Status". This should help clarify when only portions of a county are non-attainment. Finally, a general source phone number has been added.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]~~[326 IAC 2-7-1(22)]~~

The Permittee owns and operates a stationary flexible polyurethane foam production plant.

Responsible Official:	Adrien Bobeck Steve Setzer , Plant Manager
Source Address:	2211 South Wayne St., Auburn, Indiana 46706
Mailing Address:	same as above
General Source Phone Number:	219-925-1073
SIC Code:	3086
County Location:	Dekalb
County Status: Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program
	Minor Source, under PSD Rules;
	Major Source, Section 112 of the Clean Air Act

3. The new equipment has been added to section A.2 (Emission Units and Pollution Control Equipment Summary) and section D.1. Section A.2 has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]

[326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (1) One (1) flat block pour line, identified as EU-PL, with a maximum capacity of producing 4.8×10^8 board feet of foam per year, and exhausted through seven (7) stacks (S/V ID 1,2,3,4,5,6,7). This facility was installed in November of 1977;
 - (2) two (2) Flame Laminators, identified as Flame Laminator #1 (EU-F1) and Flame Laminator #2 (EU-F2), each with a maximum capacity to finish 3.504×10^8 square feet per year of polyurethane foam. Flame Laminator #1, installed in 1978, is exhausted through two (2) stacks (S/V ID 15,16), and Flame Laminator #2, installed in 1993, is exhausted through one (1) stack (S/V ID 34);
 - (3) four (4) Rebond mold units, identified as EU-R1, EU-R2, EU-R3, and EU-R4, with a total maximum capacity of bonding 9.6 tons per hour of scrap foam, exhausted through four (4) stacks (S/V ID 28, 29, 35, 36), respectively;
 - (4) one (1) source-wide adhesive application operation, with emissions venting inside the plant; ~~and~~
 - (5) one (1) source-wide chemical solvent usage operation, with emissions venting inside the plant;
 - (6) three (3) natural gas-fired industrial boilers identified as Boilers #1, #2 and #3 (EU-B1, EU-B2, EU-B3), each rated at 10.5 million (MM) British thermal units (Btu) per hour and exhausted through three (3) stacks (S/V ID 31,32,33), respectively. Boilers #1 and #2 were installed in 1978 and Boiler #3 was installed in 1986; ~~and~~
 - (7) **one (1) Variable Pressure Foaming (VPF) line, constructed in 2001, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride.**
4. Since the TDI/MDI storage tanks, which are insignificant activities, are subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production"), these units will be listed in section A.3 (Specifically Regulated Insignificant Activities). Therefore, section A.3 is revised as follows:
- A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]
-
- ~~This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1 (21) that have applicable requirements.~~
- This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):**
- (1) **The following units emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:**
 - (a) **TDI/MDI Storage Tanks [326 IAC 14, 40 CFR Part 63.1290 through 63.1309, Subpart III].**
5. New conditions D.1.1, D.1.2, D.1.3, D.1.4, D.1.5, D.1.10, D.1.11, D.1.16, D.1.17, and D.1.19 have been added to the Part 70 permit to include the requirements of the NESHAP, 326 IAC 14, (40 CFR Part 63.1290 through 63.1309, Subpart III, "National Emission Standards for Hazardous Air

Pollutants for Flexible Polyurethane Foam Production"). All existing conditions have been re-numbered accordingly. Also, condition D.1.1 (now D.1.6) has been revised to include the new VPF line in the source-wide VOC emission limit so that the source can remain a PSD minor source pursuant to 326 IAC 2-2 (PSD). Condition D.1.2 (now D.1.7) has also been revised to include the BACT requirements for the new VPF line pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements. Condition D.1.5 (now D.1.12) has been revised to include the testing requirements for the new VPF line. Condition D.1.8 (now D.1.18) has been revised to include record keeping for the new VPF line to demonstrate compliance with the VOC emission limit. The TDI/MDI storage tanks have been included in the Facility Description box for section D.1 since they are also subject to Subpart III. Section D.1 is revised to read as follows:

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) flat block pour line, identified as EU-PL, with a maximum capacity of producing 4.8 x 10⁸ board feet of foam per year, and exhausted through seven (7) stacks (S/V ID 1,2,3,4,5,6,7). This facility was installed in November of 1977;
- (b) two (2) Flame Laminators, identified as Flame Laminator #1 (EU-F1) and Flame Laminator #2 (EU-F2), each with a capacity to finish 3.504 x 10⁸ ft² per year of polyurethane foam. Flame Laminator #1, installed in 1978, is exhausted through two (2) stacks (S/V ID 15,16), and Flame Laminator #2, installed in 1993, is exhausted through one (1) stack (S/V ID 34);
- (c) four (4) Rebond mold units, identified as EU-R1, EU-R2, EU-R3, and EU-R4, with a total maximum capacity of bonding 9.6 tons per hour of scrap foam, exhausted through four (4) stacks (S/V ID 28, 29, 35, 36) respectively;
- (d) one (1) source-wide adhesive application operation, with emissions venting inside the plant;
~~and~~
- (e) one (1) source-wide chemical solvent usage operation, with emissions venting inside the plant;
- (f) **one (1) Variable Pressure Foaming (VPF) line, constructed in 2001, with a maximum capacity of producing 800,000,000 board feet of foam per year, with a carbon adsorber to control VOC emissions, exhausted through two (2) stacks (ID Nos. 39 and 40). Alternately, this line also has the capacity to produce a small amount of foam by pouring using a maximum of 4,000,000 pounds per year of MDI and less than 10 tons per year of methylene chloride; and**
- (g) **The following units emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:**
 - (1) **TDI/MDI Storage Tanks [326 IAC 14, 40 CFR Part 63.1290 through 63.1309, Subpart III].**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the flat block pour line (EU-PL), the four (4) Rebond mold units (EU-R1, EU-R2, EU-R3, and EU-R4), the Variable Pressure Foaming Line (VPF), and the TDI/MDI storage tanks described in this section except when otherwise specified in 40 CFR Part 63, Subpart III.

D.1.2 Flexible Polyurethane Foam Production NESHAP Compliance Dates [326 IAC 2-7-5] [40 CFR Part 63.1291, Subpart III] [326 IAC 20-22-1]

- (a) The foam manufacturing process at this source is a slabstock polyurethane foam manufacturing operation.
- (b) Pursuant to 40 CFR 63.1291(a), the new VPF line, the existing flat block pour line, the four (4) existing Rebond mold units, and the TDI/MDI storage tanks shall be in compliance with all provisions of this rule no later than October 8, 2001.

D.1.3 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1294, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1294, this source shall comply with the provisions of the section which are as follows:

- (a) Diisocyanate storage vessels.
Diisocyanate storage vessels shall be equipped with either a system meeting the requirements in paragraph (a)(1) below, or a carbon adsorption system meeting the requirements of paragraph (a)(2) below.
 - (1) The storage vessel shall be equipped with a vapor return line from the storage vessel to the tank truck or rail car that is connected during unloading.
 - (i) During each unloading event, the vapor return line shall be inspected for leaks by visual, audible, or any other detection method.
 - (ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than the subsequent unloading event.
 - (2) The storage vessel shall be equipped with a carbon adsorption system, meeting the monitoring requirements of 40 CFR 63.1303(a), that routes displaced vapors through activated carbon before being discharged to the atmosphere. The Permittee shall replace the existing carbon with fresh carbon upon indication of breakthrough before the next unloading event.
- (b) Transfer pumps in diisocyanate service.
Each transfer pump in diisocyanate service shall meet the requirements of paragraph (b)(1) or (b)(2) below.
 - (1) The pump shall be a sealless pump; or
 - (2) The pump shall be a submerged pump system meeting the requirements in paragraphs (b)(2)(i) through (iii) listed below.
 - (i) The pump shall be completely immersed in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.
 - (ii) The pump shall be visually monitored weekly to detect leaks,
 - (iii) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (b)(2)(iii)(A) and (B) below, except as provided in paragraph (d) below.
 - (A) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.
 - (B) A first attempt at repair shall be made no later than 5

calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

- (1) Tightening of packing gland nuts.
- (2) Ensuring that the seal flush is operating at design pressure and temperature.

(c) Other components in diisocyanate service.

If evidence of a leak is found by visual, audible, or any other detection method, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) below. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Delay of repair.

- (1) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in diisocyanate service.
- (2) Delay of repair for valves and connectors is also allowed if:
 - (i) The owner or operator determines that diisocyanate emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
 - (ii) The purged material is collected and destroyed or recovered in a control device when repair procedures are effected.
- (3) Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a sealless pump, and repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

D.1.4 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1299, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1299, this source complying with the source-wide emission limitation option provided in 40 CFR 63.1293(b) shall control HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line (which includes the existing flat block pour line and the new VPF line), and equipment cleaning HAP emissions in accordance with the provisions in 40 CFR 63.1299. Compliance shall be determined on a rolling annual basis in accordance with 40 CFR 63.1299(a).

(a) Rolling annual compliance.

Under the rolling annual compliance provisions, actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions are compared to allowable source-wide emissions for each consecutive 12-month period. The allowable source-wide HAP emission level is calculated based on the production for the 12-month period, resulting in a potentially different allowable level for each 12-month period. While compliance is on an annual basis, compliance shall be determined monthly for the preceding 12-month period. The actual source-wide HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(c)(1) through (4), listed in paragraphs (b)(1) through (4) below. The allowable HAP emission level for a consecutive 12-month period shall be determined using the procedures in 40 CFR 63.1299(d), listed in paragraph (c) below.

(b) Procedures for determining actual source-wide HAP emissions.

The actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions shall

be determined using the procedures in 40 CFR 63.1299. Actual source-wide HAP emissions for each individual month shall be determined using the procedures specified in paragraphs (b)(1) through (3) below.

- (1) Actual source-wide HAP emissions for a month shall be determined using Equation 5 and the information determined in accordance with paragraphs (b)(2) and (3) below.

$$PWE_{\text{actual}} = \sum_i^n (ST_{i, \text{begin}} - ST_{i, \text{end}} + ADD_i) \quad (\text{Equation 5})$$

Where:

PWE_{actual} = Actual source-wide HAP ABA and equipment cleaning HAP emissions for a month, pounds/month.

n = Number of HAP ABA storage vessels.

$ST_{i, \text{begin}}$ = Amount of HAP ABA in storage vessel i at the beginning of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below.

$ST_{i, \text{end}}$ = Amount of HAP ABA in storage vessel i at the end of the month, pounds, determined in accordance with the procedures listed in paragraph (b)(2) below.

ADD_i = Amount of HAP ABA added to storage vessel i during the month, pounds, determined in accordance with the procedures listed in paragraph (b)(3) below.

- (2) The amount of HAP ABA in a storage vessel shall be determined by monitoring the HAP ABA level in the storage vessel in accordance with 40 CFR 63.1303(d).
- (3) The amount of HAP ABA added to a storage vessel for a given month shall be the sum of the amounts of all individual HAP ABA deliveries that occur during the month. The amount of each individual HAP ABA delivery shall be determined in accordance with 40 CFR 63.1303(e).
- (4) Actual source-wide HAP emissions for each consecutive 12-month period shall be calculated as the sum of actual monthly source-wide HAP emissions for each of the individual 12 months in the period, calculated in accordance with paragraphs (b)(1) through (3) above.
- (c) Allowable source-wide HAP emissions for a consecutive 12-month period shall be calculated as the sum of allowable monthly source-wide HAP emissions for each of the individual 12 months in the period. Allowable source-wide HAP emissions for each individual month shall be calculated using Equation 6.

$$emiss_{\text{allow, month}} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(\text{limit}_i)(\text{polyol}_i)}{100} \right)_j \quad (\text{Equation 6})$$

Where:

$emiss_{\text{allow, month}}$ = Allowable HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions from the slabstock foam production source for the month, pounds.

m = Number of slabstock foam production lines.

polyol_i = Amount of polyol used in the month in the production of foam grade i on foam production line j , determined in

n = accordance with 40 CFR 63.1303(b), pounds.
Number of foam grades produced in the month on foam production line j.
limit_i = HAP ABA formulation limit for foam grade i, parts HAP ABA per 100 parts polyol. The HAP ABA formulation limits are determined in accordance with 40 CFR 63.1297(d).

D.1.5 Flexible Polyurethane Foam Production NESHAP [326 IAC 2-7-5] [40 CFR Part 63.1301, Subpart III][326 IAC 20-22-1]

The requirements of 40 CFR 63.1301 apply to the four (4) existing Rebond mold units. Pursuant to 40 CFR 63.1301, the Permittee shall comply with the provisions in paragraphs (a) and (b) below.

- (a) A HAP or HAP-based material shall not be used as an equipment cleaner at a rebond foam source.
- (b) A HAP-based mold release agent shall not be used in a rebond foam source.

D.1.46 Volatile Organic Compounds (VOC) [326 IAC 2-2] [40 CFR 52.21]

The polyurethane foam production plant shall limit the VOC emissions from the emission units identified as the pourline (EU-PL), flame laminators #1 and #2 (EU-F1, EU-F2), four (4) rebond molding units (EU-R1, EU-R2, EU-R3, EU-R4), three (3) natural gas boilers (EU-B1, EU-B2, EU-B3) identified in Section D.2, adhesive application operations, and chemical solvent usage, and the VPF line such that total source-wide VOC potential to emit is less than 250 tons per twelve (12) consecutive month period:

- (a) The total VOC usage at the pourline facility identified as (EU-PL) and the VPF line shall be limited such that VOC emissions do not exceed 164.64 tons per twelve (12) consecutive month period. Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate;
- (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:

VOC emissions from pourline (EU-PL) (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs

VOC emissions from VPF line (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon adsorber on VPF line)

- (A) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.
- (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:
VOC emissions from VPF line (tons) =
TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight) x 1 ton / 2000 lbs x (1 - overall TDI and MDI control efficiency

of carbon adsorber on VPF line)

- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and**
- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.**
- (b) The VOC emissions from Flame Laminator #2 (EU-F2) shall be limited to **less than 24.0 25.0** tons per year based on the following:
 - (1) This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit potential VOC emissions from EU-F2 to **less than 24.0 25.0** tons per year.
- (c) Flame Laminator #1 (EU-F1) emissions shall be based on a VOC emission rate of 6.5 pounds per hour. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from EU-F1.
- (d) The VOC emissions from the four (4) rebond molding facilities (EU-R1, EU-R2, EU-R3, EU-R4) are based on a total emission factor of 0.14 lbs VOC/hr. This factor shall be used when calculating VOC emissions. If the results of the stack testing required in this permit indicates a higher VOC emission rate, that rate shall be used to determine emissions from the four (4) rebond molding facilities (EU-R1, EU-R2, EU-R3, EU-R4).

Compliance with these conditions shall limit source-wide VOC emissions to less than 250 tons per year and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.27 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

- (a)** The facility identified as Flame Laminator #2 (EU-F2) shall be limited to no more than 7,380 hours of operation per twelve (12) consecutive month period. This operating limit is required to limit the potential to emit VOC to less than 25.0 tons per year to **avoid render** the requirements of 326 IAC 8-1-6 (General Reduction Requirements) **not applicable**.
 - (1)** This operating limit was based on a stack test emission factor of 6.5 lbs VOC per hour, and a foam burn-off range between 0.015 inches and 0.150 inches of foam. If the results of the stack testing required in this permit indicate a higher VOC emission rate, the limited hours of operation shall be adjusted accordingly to limit the potential to emit VOC from EU-F2 to less than 25.0 tons per year.
- (b) Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Best Available Control Technology (BACT) for the new VPF line will be following:**
 - (1) Operation of the carbon adsorber to control VOC emissions from the VPF line at all times that the VPF line is in operation. The carbon adsorber shall operate at a minimum TDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.**

- (2) The production of polyurethane foam in the VPF line shall be limited to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber.

Emissions shall be calculated using the following:

- (A) VOC emissions from amine catalyst usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine %
(weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control
efficiency of carbon adsorber on VPF line)

- (i) The amine catalyst is comprised of volatile organics and non-volatile organics that are consumed in foam production process. Based on manufacturers data, the volatile organic constituent of the amine catalyst is the tertiary amine. Therefore, VOC emissions from the amine catalyst shall be equivalent to the percent by weight of the tertiary amine constituent as shown above.

- (B) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:

VOC emissions from VPF line (tons) =
TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x
TDI or MDI % (weight) x 1 ton / 2000 lbs x (1 - overall TDI and MDI
control efficiency of carbon adsorber on VPF line)

- (C) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.

D.1.38 Particulate Matter (PM) [326 IAC 6-3]

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the four (4) rebond mold unit facilities (EU-R1, EU-R2, EU-R3, EU-R4) shall not exceed a total 18.66 pounds per hour when operating at a total process weight rate of 9.6 tons per hour.
- (b) Pursuant to 326 IAC 6-3 (Process Operations), the total allowable PM emission rate from the two (2) propane-fired (natural gas backup) flame laminator machines (EU-F1, EU-F2) shall not exceed 4.1 pounds per hour when operating at a total process weight rate of 2,000 pounds per hour.

The pounds per hour limitation's were calculated with the following equation:

Interpolation ~~and extrapolation~~ of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.49 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of

this permit, is required for the pourline (EU-PL), Flame Laminator #1 (EU-F1), and Flame Laminator #2 (EU-F2), and the VPF line and any control devices.

Compliance Determination Requirements

D.1.10 Testing Requirements [40 CFR 63.1304, Subpart III][326 IAC 2-7-6(1),(6)][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1304, the Permittee shall use the test methods listed below, as applicable, to demonstrate compliance with Subpart III.

- (a) **Test method to determine foam properties.**
The IFD and density of each grade of foam produced during each run of foam shall be determined using ASTM D3574-91, Standard Test Methods for Flexible Cellular Materials--Slab, Bonded, and Molded (incorporation by reference--see 40 CFR 63.14), using a sample of foam cut from the center of the foam bun. The maximum sample size for which the IFD and density is determined shall not be larger than 24 inches by 24 inches by 4 inches. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to determine the IFD and density in accordance with this paragraph.

D.1.11 Compliance Demonstrations [40 CFR 63.1308, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1308,

- (a) For the Permittee, compliance with the requirements listed in paragraphs (a)(1) through (a)(2) below shall mean compliance with the requirements contained in 40 CFR 63.1293 through 63.1301, absent any credible evidence to the contrary.
 - (1) The requirements described in Tables 3, 4, and 5 of Subpart III; and
 - (2) The requirement to submit a compliance certification annually as required under 40 CFR 63.1306(g).
- (b) **All slabstock affected sources.**
For slabstock affected sources, failure to meet the requirements contained in 40 CFR 63.1294 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (b)(1) through (b)(6) below, as applicable, shall be considered a separate violation.
 - (1) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(1), each unloading event that occurs when the diisocyanate storage vessel is not equipped with a vapor return line from the storage vessel to the tank truck or rail car, each unloading event that occurs when the vapor line is not connected, each unloading event that the vapor line is not inspected for leaks as described in 40 CFR 63.1294(a)(1)(i), each unloading event that occurs after a leak has been detected and not repaired, and each calendar day after a leak is detected, but not repaired as soon as practicable;
 - (2) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each unloading event (or each month if more than one unloading event occurs in a month) that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4), and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;
 - (3) For the Permittee complying with 40 CFR 63.1294(a) in accordance with 40 CFR 63.1294(a)(2) through the alternative monitoring procedures in 40 CFR 63.1303(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each time that the carbon adsorption system is not monitored for breakthrough in accordance with 40 CFR 63.1303(a)(3) or (4) at the interval established in the design analysis,

- and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;
- (4) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(1), each calendar day that a transfer pump in diisocyanate service is not a sealless pump;
 - (5) For the Permittee complying with 40 CFR 63.1294(b) in accordance with 40 CFR 63.1294(b)(2), each calendar day that a transfer pump in diisocyanate service is not submerged as described in 40 CFR 63.1294(b)(2)(i), each week that the pump is not visually monitored for leaks, each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with 40 CFR 63.1294(b)(2)(iii)(B), and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1294(d));
 - (6) For each affected source complying with 40 CFR 63.1294(c), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of 40 CFR 63.1296(f)).
- (c) Slabstock affected sources complying with the source-wide emission limitation. For the Permittee complying with the source-wide emission limitation as provided in 40 CFR 63.1293(b), failure to meet the requirements contained in 40 CFR 63.1299 shall be considered a violation of this subpart. Violation of each item listed in paragraph (c)(1) below, as applicable, shall be considered a separate violation.
- (1) For each affected source complying with 40 CFR 63.1299 in accordance with the rolling annual compliance option in 40 CFR 63.1299(a), each calendar day in the 12-month period for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with 40 CFR 63.1303(b)(1)(i), each calendar day in a week in which the amount of HAP ABA in a storage vessel is not determined in accordance with 40 CFR 63.1303(d), each delivery of HAP ABA in which the amount of HAP ABA added to the storage vessel is not determined in accordance with 40 CFR 63.1303(e), each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with 40 CFR 63.1303(b)(3)(i), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with 40 CFR 63.1304(b);
- (d) Molded and rebond foam affected sources.
- For the Permittee, a rebond foam affected source, failure to meet the requirements contained in 40 CFR 63.1301 shall be considered a violation of this subpart. Violation of each item listed in the following paragraphs shall be considered a separate violation.
- (1) For each rebond foam affected source subject to the provisions of 40 CFR 63.1301(a), each calendar day that a HAP-based material is used as an equipment cleaner; and
 - (2) For each rebond foam affected source complying with 40 CFR 63.1301(b), each calendar day that a HAP-based mold release agent is used.

(a) The following VOC testing requirement applies to the following facilities:

- (i) pourline (EU-PL);
- (ii) flame laminators #1 and #2 (EU-F1, EU-F2);
- (iii) rebond molding (EU-R1, EU-R2, EU-R3, EU-R4);

During the period between 24 and 36 months after issuance of this permit, the Permittee shall perform VOC testing, to confirm the VOC emissions stated in D.1.1 and D.1.2, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. The Permittee shall conduct the performance test in accordance with Section C - Performance Testing. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(b) The following PM and PM-10 testing requirement applies to the rebond molding facilities identified as EU-R1, EU-R2, EU-R3, and EU-R4 (S/V ID 28,29,35,36);

During the period between 24 and 36 months after issuance of this permit, the Permittee shall perform PM testing utilizing Methods 5 or 17 (40 CFR 60, Appendix A, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. The Permittee shall conduct the performance test in accordance with Section C - Performance Testing. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(c) **The following VOC testing requirement applies to the VPF line:**

During the period within 180 days after start-up, in order to demonstrate compliance with Conditions D.1.6 and D.1.7, the Permittee shall perform VOC testing utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.613 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.46 and D.1.27 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAMQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.714 VOC Emissions

Compliance with Conditions D.1.46 and D.1.27 shall be demonstrated at the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

D.1.15 VOC Emissions Control

- (a) **The carbon adsorber controlling VOC emissions from the VPF line shall be in operation at all times that the VPF line is in operation to ensure compliance with conditions D.1.6 and D.1.7.**
- (b) **The carbon adsorber controlling VOC emissions from the VPF line shall maintain a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%.**

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.16 Monitoring Requirements [40 CFR 63.1303, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1303, the Permittee shall comply with each applicable monitoring provision of 40 CFR 63.1303 as listed below.

- (a) **Monitoring requirements for storage vessel carbon adsorption systems.**
The Permittee using a carbon adsorption system to meet the requirements of 40 CFR 63.1294(a) shall monitor the concentration level of the HAP or the organic compounds in the exhaust vent stream (or outlet stream exhaust) from the carbon adsorption system at the frequency specified in (a)(1) or (2) below in accordance with either (a)(3) or (4) below.
 - (1) The concentration level of HAP or organic compounds shall be monitored during each unloading event, or once per month during an unloading event if multiple unloading events occur in a month.
 - (2) As an alternative to monthly monitoring, the Permittee can set the monitoring frequency at an interval no greater than 20 percent of the carbon replacement interval, which is established using a design analysis described below in paragraphs (a)(2)(i) through (iii).
 - (i) The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature.
 - (ii) The design analysis shall establish the outlet organic concentration level, the capacity of the carbon bed, and the working capacity of activated carbon used for the carbon bed, and
 - (iii) The design analysis shall establish the carbon replacement interval based on the total carbon working capacity of the carbon adsorption system and the schedule for filling the storage vessel.
 - (3) Measurements of HAP concentration shall be made using 40 CFR part 60, appendix A, Method 18. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
 - (4) Measurements of organic compounds shall be made using 40 CFR part 60, Appendix A, Method 25A. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.
- (b) **Monitoring for HAP ABA and polyol added to the foam production line (which includes the existing flat block pour line and the new VPF line) at the mixhead.**
 - (1) The Permittee shall comply with the provisions in paragraph (b)(1)(i) below.
 - (i) The Permittee shall continuously monitor the amount of polyol added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2) through (4) below.
 - (2) The owner or operator shall monitor either:
 - (i) Pump revolutions; or
 - (ii) Flow rate.
 - (3) The device used to monitor the parameter from paragraph (b)(2) shall have an accuracy to within +/- 2.0 percent of the HAP ABA being measured, and shall be calibrated initially, and periodically, in accordance with paragraph (b)(3)(i) or (ii) below.
 - (i) For polyol pumps, the device shall be calibrated at least once each 6 months.
 - (ii) For HAP ABA pumps, the device shall be calibrated at least once each month.
 - (4) Measurements must be recorded at the beginning and end of the

- production of each grade of foam within a run of foam.
- (c) **Monitoring of HAP ABA in a storage vessel.**
The amount of HAP ABA in a storage vessel shall be determined weekly by monitoring the HAP ABA level in the storage vessel using a level measurement device that meets the criteria described in paragraphs (c)(1) and either (c)(2) or (c)(3) below.
- (1) The level measurement device must be calibrated initially and at least once per year thereafter.
 - (2) With the exception of visually-read level measurement devices (i.e., gauge glass), the device must have either a digital or printed output.
 - (3) If the level measurement device is a visually-read device, the device must be equipped with permanent graduated markings to indicate HAP ABA level in the storage tank.
- (d) **Monitoring of HAP ABA added to a storage vessel.**
The amount of HAP ABA added to a storage vessel during a delivery shall be determined in accordance with either paragraphs (d)(1), (2), or (3) of this section.
- (1) The volume of HAP ABA added to the storage vessel shall be determined by recording the volume in the storage vessel prior to the delivery and the volume after the delivery, provided that the storage tank level measurement device used to determine the levels meets the criteria in paragraph (c) above.
 - (2) The volume of HAP ABA added to the storage vessel shall be determined by monitoring the flow rate using a device with an accuracy of +/- 2.0 percent, and calibrated initially and at least once each six months thereafter.
 - (3) The weight of HAP ABA added to the storage vessel shall be calculated as the difference of the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading into the storage vessel. The weight shall be determined using a scale meeting the requirements of either paragraph (d)(3)(i) or (ii) below.
 - (i) A scale approved by the State or local agencies using the procedures contained in Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998 (incorporation by reference--see 40 CFR 63.14).
 - (ii) A scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.17 Record Keeping Requirements [40 CFR 63.1307, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1307, the applicable records designated in paragraphs (a) through (c) below shall be maintained by the Permittee.

- (a) **Storage vessel records.**
- (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
 - (2) For storage vessels complying through the use of a carbon adsorption system, the records listed in paragraphs (a)(2)(i) or (ii), and paragraph (a)(2)(iii) of this section.
 - (i) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading, when the device is monitored in accordance with 40 CFR 63.1303(a); or
 - (ii) For affected sources monitoring at an interval no greater than 20

- percent of the carbon replacement interval, in accordance with 40 CFR 63.1303(a)(2), the records listed in paragraphs (a)(2)(ii)(A) and (B) below.
 - (A) Records of the design analysis, including all the information listed in 40 CFR 63.1303(a)(2)(i) through (iii), and
 - (B) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading.
- (iii) Date when the existing carbon in the carbon adsorption system is replaced with fresh carbon.
- (3) For storage vessels complying through the use of a vapor return line, paragraphs (a)(3)(i) through (iii) below.
 - (i) Dates and times when each unloading event occurs and each inspection of the vapor return line for leaks occurs.
 - (ii) Records of dates and times when a leak is detected in the vapor return line.
 - (iii) Records of dates and times when a leak is repaired.
- (b) Equipment leak records.
 - (1) A list of components as specified below in paragraph (b)(1)(i).
 - (i) For all affected sources, a list of components in diisocyanate service,
 - (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump and the date of installation.
 - (3) When a leak is detected as specified in 40 CFR 63.1294(b)(2)(ii) and 40 CFR 63.1294(c), the requirements listed in paragraphs (b)(3)(i) and (ii) below apply:
 - (i) Leaking equipment shall be identified in accordance with the requirements in paragraphs (b)(3)(i)(A) and (B) below.
 - (A) A readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
 - (B) The identification on equipment, other than a valve, may be removed after it has been repaired.
 - (ii) The information in paragraphs (b)(3)(ii)(A) through (H) shall be recorded for leaking components.
 - (A) The instrument and operator identification numbers and the equipment identification number.
 - (B) The date the leak was detected and the dates of each attempt to repair the leak.
 - (C) Repair methods applied in each attempt to repair the leak.
 - (D) The words "above leak definition" if the maximum instrument reading measured by the methods specified in 40 CFR 63.1304(a) after each repair attempt is equal or greater than the leak definitions for the specified equipment.
 - (E) The words "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (F) The expected date of the successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (G) The date of successful repair of the leak.
 - (H) The date the identification is removed.
- (c) HAP ABA records.
 - (1) Source-wide limitations - rolling annual compliance and monthly compliance alternative records.
The Permittee complying with the source-wide limitations of 40 CFR

63.1299, and the rolling annual compliance provisions in 40 CFR 63.1299(a), shall maintain the records listed in paragraphs (c)(1)(i) through (c)(1)(vii) below.

- (i) Daily records of the information listed in paragraphs (c)(1)(i)(A) through (C) of this section.
 - (A) A log of foam runs each day. For each run, the log shall include a list of the grades produced during the run.
 - (B) Results of the density and IFD testing for each grade of foam produced during each run of foam, conducted in accordance with the procedures in 40 CFR 63.1304(b). The results of this testing shall be recorded within 10 working days of the production of the foam. For grades of foam where the Permittee has designated the HAP ABA formulation limitation as zero, the Permittee is not required to keep records of the IFD and density.
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the amount of polyol added to the slabstock foam production line at the mixhead for each grade produced during each run of foam, determined in accordance with 40 CFR 63.1303(b).
- (ii) For sources complying with the source-wide emission limitation, weekly records of the storage tank level, determined in accordance with 40 CFR 63.1303(d).
- (iii) Monthly records of the information listed below in paragraphs (c)(1)(iii)(A) through (E).
 - (A) A listing of all foam grades produced during the month,
 - (B) For each foam grade produced, the residual HAP formulation limitation, calculated in accordance with 40 CFR 63.1297(d).
 - (C) With the exception of those grades for which the Permittee has designated zero as the HAP ABA formulation limitation, the total amount of polyol used in the month for each foam grade produced.
 - (D) The total allowable HAP ABA and equipment cleaning emissions for the month, determined in accordance with 40 CFR 63.1297(b)(2).
 - (E) The total actual source-wide HAP ABA emissions for the month, determined in accordance with 40 CFR 63.1299(c)(1), along with the information listed in paragraphs (c)(1)(iii)(E)(1) and (2) below.
 - (1) The amounts of HAP ABA in the storage vessel at the beginning and end of the month, determined in accordance with 40 CFR 63.1299(c)(2); and
 - (2) The amount of each delivery of HAP ABA to the storage vessel, determined in accordance with 40 CFR 63.1299(c)(3).
- (iv) Each source complying with the rolling annual compliance provisions of 40 CFR 63.1299(a) shall maintain the records listed in paragraphs (c)(1)(iv)(A) and (B) below.
 - (A) The sum of the total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.
 - (B) The sum of the total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.
- (v) Records of all calibrations for each device used to measure polyol

- added at the mixhead, conducted in accordance with 40 CFR 63.1303(b)(3).
- (vi) Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel, conducted in accordance with 40 CFR 63.1303(d)(1).
 - (vii) Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of 40 CFR 63.1303(e)(3). For scales meeting the criteria of 40 CFR 63.1303(e)(3)(i), this documentation shall be in the form of written confirmation of the State or local approval. For scales complying with 40 CFR 63.1303(e)(3)(ii), this documentation shall be in the form of a report provided by the registered scale technician.
- (d) The Permittee following the compliance methods in 40 CFR 63.1308(b)(1) and (c)(1) shall maintain records of each use of a vapor return line during unloading, of any leaks detected during unloading, and of repairs of leaks detected during unloading.
 - (e) The Permittee subject to 40 CFR 63.1300 or 40 CFR 63.1301 of this subpart shall maintain a product data sheet for each compound other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, which includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each solvent other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance.
 - (f) The Permittee subject to 40 CFR 63.1300 or Sec. 63.1301 of this subpart shall maintain a product data sheet for each mold release agent used that includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each mold release agent.

D.1.818 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.46, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.46.
 - (1) The amount and VOC (tertiary amine) content of each amine catalyst, raw material, adhesive, and chemical solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to raw materials and those used as cleanup solvents;
 - (2) A log of the month of use;
 - (3) The volume weighted VOC content of the adhesives and solvents used for each month;
 - (4) The cleanup solvent usage for each month;
 - (5) The total VOC usage, including tertiary amine usage, for each month; and
 - (6) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Conditions D.1.46(b) and D.1.27(a), a cumulative operating time meter, equipped with a continuous recorder for documenting the time of operation for the Flame Laminator #2 (EU-F2), shall be permanently installed and operated at all times when the unit is in operation.
- (c) To document compliance with Condition D.1.7(b), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established

in Condition D.1.7(b).

- (1) The amount and VOC (tertiary amine and TDI or MDI) content of each amine catalyst and other raw material used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (2) A log of the month of use;
 - (3) The total VOC usage, including tertiary amine and TDI or MDI usage, for each month; and
 - (4) The weight of VOCs emitted for each compliance period.
- (e)(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.19 Reporting Requirements [40 CFR 63.1306, Subpart III][326 IAC 20-22-1]

Pursuant to 40 CFR 63.1306, the Permittee shall comply with each applicable reporting provision in this section.

- (a) Initial notification.
The Permittee shall submit an initial notification in accordance with 40 CFR 63.9(b).
- (b) Application for approval of construction or reconstruction.
The Permittee shall submit an application for approval of construction or reconstruction in accordance with the provisions of 40 CFR 63.5(d).
- (c) Precompliance report.
The Permittee shall submit a precompliance report no later than 12 months before the compliance date. This report shall contain the information listed in paragraphs (c)(1) through (c)(8) below, as applicable.
 - (1) Whether the source will comply with the emission point specific limitations described in 40 CFR 63.1293(a), or with the source-wide emission limitation described in 40 CFR 63.1293(b).
 - (2) For a source complying with the emission point specific limitations, whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1297(b), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1297(c).
 - (3) For a source complying with the source-wide emission limitation, whether the source will comply on a rolling annual basis in accordance with 40 CFR 63.1299(a), or will comply with the monthly alternative for compliance contained in 40 CFR 63.1299(b).
 - (4) A description of how HAP ABA and/or polyol added at the mixhead will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(b)(5)(i) through (iv) shall be submitted.
 - (5) Notification of the intent to use a recovery device to comply with the provisions of 40 CFR 63.1297 or 40 CFR 63.1299.
 - (6) For slabstock affected sources complying with 40 CFR 63.1297 or 40 CFR 63.1299 using a recovery device, the continuous recovered HAP ABA monitoring and record keeping program, developed in accordance with 40 CFR 63.1303(c).
 - (7) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA in a storage vessel shall be determined.
 - (8) For sources complying with the source-wide emission limitation, a

- description of how the amount of HAP ABA added to a storage vessel during a delivery will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in 40 CFR 63.1303(e)(4)(i) through (iv) shall be submitted.
- (9) If the Administrator does not notify the owner or operator of objections to an alternative monitoring program submitted in accordance with (c)(4) or (c)(6) above, or a recovered HAP ABA monitoring and record keeping program submitted in accordance with (c)(7) above, the program shall be deemed approved 45 days after its receipt by the Administrator.
- (d) **Notification of compliance status.**
The Permittee shall submit a notification of compliance status report no later than 180 days after the compliance date. For slabstock affected sources, this report shall contain the information listed in paragraphs (d)(1) and (2) below, as applicable. This report shall contain the information listed in paragraph (d)(3) for rebond foam processes.
- (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.
- (2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump.
- (3) A statement that the rebond foam affected source is in compliance with 40 CFR 63.1301, or that rebond processes at an affected source are in compliance with 40 CFR 63.1301.
- (e) **Semiannual reports.**
The Permittee shall submit a report containing the information specified in paragraphs (e)(1) through (4) below semiannually no later than 60 days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date that the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date that the Notification of Compliance Status Report is due.
- (1) For slabstock affected sources complying with the rolling annual compliance provisions of 40 CFR 63.1299, the allowable and actual HAP ABA emissions (or allowable and actual source-wide HAP emissions) for each of the 12-month periods ending on each of the six months in the reporting period. This information is not required to be included in the initial semi-annual compliance report.
- (2) For sources complying with the storage vessel provisions of 40 CFR 63.1294(a) using a carbon adsorption system, unloading events that occurred after breakthrough was detected and before the carbon was replaced.
- (3) Any equipment leaks that were not repaired in accordance with 40 CFR 63.1294(b)(2)(iii) and 40 CFR 63.1294(c).
- (4) Any leaks in vapor return lines that were not repaired in accordance with 40 CFR 63.1294(a)(1)(ii).
- (f) **Other reports.**
- (1) **Change in selected emission limitation.**
The Permittee electing to change their slabstock flexible polyurethane foam emission limitation (from emission point specific limitations to a source-wide emission limitation, or vice versa), selected in accordance with 40 CFR 63.1293, shall notify the Administrator no later than 180 days prior to the change.
- (2) **Change in selected compliance method.**
The Permittee changing the period of compliance for 40 CFR 63.1299 (between rolling annual and monthly) shall notify the Administrator no later

than 180 days prior to the change.

- (g) **Annual compliance certifications.**
The Permittee subject to the provisions in 40 CFR 63.1293 through 63.1301 shall submit a compliance certification annually.
- (1) The compliance certification shall be based on information consistent with that contained in 40 CFR 63.1308 of this section, as applicable.
 - (2) A compliance certification required pursuant to a State or local operating permit program may be used to satisfy the requirements of this section, provided that the compliance certification is based on information consistent with that contained in 40 CFR 63.1308 of this section, and provided that the Administrator has approved the State or local operating permit program under part 70 of this chapter.
 - (3) Each compliance certification submitted pursuant to this section shall be signed by a responsible official of the company that owns or operates the affected source.

D.1.820 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.46 and D.1.27 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

6. A quarterly report form has been added to the Part 70 permit for the VOC emission limitations on the new VPF line included in condition D.1.7. Also, the quarterly report form for the source-wide VOC emission limit has been revised to include the new VPF line and the quarterly report form for the limit on the pourline has been revised to include the new VPF line. Additionally, the quarterly report form for the VOC emission limit on Flame Laminator #2 (EU-F2) has been revised so that the VOC emission limit is expressed as being less than 25 tons per year, which is the applicability threshold of 326 IAC 8-1-6 (BACT), instead of 24.0 tons per year. The revised forms and the new form are shown on the next five pages.

Conclusion

The operation of this new Variable Pressure Foam (VPF) line shall be subject to the conditions of the attached proposed **Significant Source Modification No. 033-13706-00047**.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Source-wide
Parameter: VOC Emissions
Limit: The polyurethane foam production plant shall limit the VOC emissions from the emission units identified as the pourline (EU-PL), flame laminators #1 and #2 (EU-F1, EU-F2), four (4) rebond molding units (EU-R1, EU-R2, EU-R3, EU-R4), three (3) natural gas boilers (EU-B1, EU-B2, EU-B3), adhesive application operations, and chemical solvent usage, **and the VPF line** such that total source-wide VOC emissions do not exceed ~~249~~ **potential to emit is less than 250** tons per twelve (12) consecutive month period.

YEAR: _____

Month	VOC Emissions (tons)	VOC Emissions (tons)	VOC Emissions (tons/year)
	This month	Previous 11 months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Pourline (EU-PL) and VPF line
Parameter: **Total** VOC emissions shall be limited to 164.64 tons per twelve (12) consecutive month period.
Limit: ~~The VOC emissions from the pourline (EU-PL) shall be limited based on the following: Emissions from TDI and MDI usage shall be equal to 0.12 pounds VOC per hour emission rate as determined in 1990 stack testing; VOC emissions from amine catalyst usage shall be calculated using the following equation:~~

$$\text{VOC emissions (tons)} = \text{Amine catalyst usage (gal)} \times \text{density (lbs/gal)} \times \text{tertiary amine (weight \%)} \times 1 \text{ ton} / 2000 \text{ lbs}$$

Emissions shall be calculated using the following:

- (1) Emissions from TDI and MDI usage in the pourline facility (EU-PL) shall be equal to a 0.12 pounds VOC per hour emission rate as determined in 1990 stack testing;
- (2) VOC emissions from amine catalyst usage in the pourline (EU-PL) and the VPF line shall be calculated using the following equations:
VOC emissions from pourline (EU-PL) (tons) = Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs
VOC emissions from VPF line (tons) = Amine catalyst usage (gal) x density (lbs/gal) x tertiary amine % (weight) x 1 ton / 2000 lbs x (1 - overall tertiary amine control efficiency of carbon adsorber on VPF line)
- (3) VOC emissions from TDI and MDI usage in the VPF line shall be calculated using the following equation:
VOC emissions from VPF line (tons) = TDI or MDI containing pre-polymer usage (gal) x density (lbs/gal) x TDI or MDI % (weight) x 1 ton / 2000 lbs x (1 - overall TDI and MDI control efficiency of carbon adsorber on VPF line)
- (4) VOC emissions from the VPF line shall be calculated based on the use of a carbon adsorber with a minimum TDI and MDI overall control efficiency of 95% and a minimum tertiary amine VOC overall control efficiency of 50%; and
- (5) This source will limit the production of polyurethane foam in the VPF line to a maximum of 800,000,000 board feet per year.

(continued on next page)

YEAR: _____

Month	Total Tertiary Amine Usage (pounds) Board Ft. of Foam Produced at VPF Line This Month	Total Pourline Operating Hours	Total VOC Emissions from Pourline and VPF Line This Month (tons)	Total VOC Emissions from Pourline and VPF Line - Previous 11 months (tons)	12 Month Total VOC Emissions from Pourline - 12 Month Total and VPF Line (tons/yr)
1					
2					
3					

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: Flame Laminator #2 (EU-F2)
Parameter: VOC
Limit: The total emissions of VOC from the facility identified as Flame Laminator #2 (EU-F2) shall be limited to ~~no more than 24.0~~ **less than 25.0** tons VOC per twelve (12) consecutive month period, which is equivalent to an operating hour limitation of 7,380 hours per twelve (12) consecutive month period, ~~to avoid so that 326 IAC 8-1-6 does not apply.~~ Based on a VOC emission rate of 6.5 pounds per hour, as determined in the March, 1995 stack test of a similar unit at another Foamex, L.P. source.

YEAR: _____

Month	Column 1	Column 2	Column 1 x Column 2
	Operating hours	6.5 lbs VOC per hour; or latest stack test result	VOC Emissions (tons)
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Foamex, L.P.
Source Address: 2211 South Wayne St., Auburn, IN 46706
Mailing Address: 2211 South Wayne St., Auburn, IN 46706
Part 70 Permit No.: T033-7625-00047
Facility: VPF line
Parameter: VOC emissions
Limit: The production of polyurethane foam in the VPF line shall be limited to a maximum of 800,000,000 board feet per year. This production limit will limit the usage of tertiary amines and TDI such that the emissions of VOC will be limited to 14.7 tons per year after control by the carbon adsorber. The carbon adsorber for control of VOC emissions shall be in operation at all times that the VPF line is in operation.

YEAR: _____

Month	Total Board Ft. of Foam Produced this month	Total VOC Emissions this month (tons)	Total VOC Emissions Previous 11 months (tons)	12 Month Total VOC Emissions (tons/yr)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Appendix A: Emission Calculations Emissions Summary

Company Name: Foamex, L.P.
Address City IN Zip: 2211 South Wayne Street, Auburn, IN 46706
Source Modification No.: 033-13706
Plt ID: 033-00047
Reviewer: Trish Earls/EVP
Date: January 5, 2001

Total Potential To Emit (tons/year)			
Emissions Generating Activity			
Pollutant	VPF Line using TDI and amines in Foam Production	VPF Line using MDI and Methylene Chloride in Foam Production	TOTAL
PM	0.00	0.00	0.0
PM10	0.00	0.00	0.0
SO2	0.00	0.00	0.0
NOx	0.00	0.00	0.0
VOC	109.56	0.03	109.6
CO	0.00	0.00	0.0
total HAPs	0.72	<10.03	<10.75
worst case single HAP	0.72	<10.00	<10.00

Total Limited Potential To Emit (tons/year)			
Emissions Generating Activity			
Pollutant	VPF Line using TDI and amines in Foam Production	VPF Line using MDI and Methylene Chloride in Foam Production	TOTAL
PM	0.00	0.00	0.0
PM10	0.00	0.00	0.0
SO2	0.00	0.00	0.0
NOx	0.00	0.00	0.0
VOC	14.71	1.6E-03	14.7
CO	0.00	0.00	0.0
total HAPs	0.01	<10.00	<10.01
worst case single HAP	0.01	<10.00	<10.00

(See pages 2 and 3 of TSD Appendix A for more detailed emissions calculations)

Appendix A: Emissions Calculations
VOC Emissions
From VPF Unit Using TDI in Foam Production

Company Name: Foamex, L.P.
Address City IN Zip: 2211 South Wayne Street, Auburn, IN 46706
Source Modification No.: 033-13706
Plt ID: 033-00047
Reviewer: Trish Earls/EVP
Date: January 5, 2001

Material	Weight % Volatile Organics	Maximum Hourly Usage (lb/hr)	Potential VOC pounds per hour	Potential VOC tons per year	Maximum Usage per Board Feet of Foam Produced (lb/board ft)	Maximum Foam Production Rate (board ft/yr)	Limited Annual Usage (lb/yr)	Limited VOC tons per year
TDI 80/20	0.0016%	15,000	0.24	1.05	4.4E-02	800,000,000	35,586,640	0.28
Amine 2FX	16.00%	22	3.56	15.57	6.6E-05	800,000,000	52,718	4.22
Amine ZF-123	23.00%	21	4.82	21.11	6.2E-05	800,000,000	49,712	5.72
Amine ZF-24	23.00%	0.27	0.06	0.28	8.2E-07	800,000,000	652	0.07
Amine TD-33A	33.00%	3	0.91	4.00	8.2E-06	800,000,000	6,561	1.08
Amine TD-20	100.00%	15	14.75	64.59	4.4E-05	800,000,000	34,986	17.49
Amine 8154	32.00%	2	0.58	2.53	5.4E-06	800,000,000	4,287	0.69
Amine A-127	24.00%	0.41	0.10	0.43	1.2E-06	800,000,000	965	0.12

State Potential Emissions**25.01****109.56****29.67**

Material	Carbon Adsorber Control Efficiency (%)	Controlled VOC tons per year
TDI	95.00%	0.01
Amines	50.00%	14.69
TOTAL		14.71

Note: Limited VOC emissions after control are less than 25 tons per year, therefore, the requirements of 326 IAC 8-1-6 do not apply.

0.0011% of TDI is 2,4 TDI, which is also a HAP. Therefore, potential HAP emissions are 0.17 lb/hr or 0.72 ton/yr. Limited controlled 2,4 TDI emissions are 0.0098 ton/yr.

METHODOLOGY

Potential VOC Pounds per Hour = Weight % Volatile Organics * Maximum Hourly Usage (lb/hr)

Potential VOC Tons per Year = Maximum Hourly Usage (lb/hr) * Weight % Volatile Organics * 8760 hrs/yr * (1 ton/2000 lbs)

Maximum Usage per Board Feet of Foam Produced is based on information provided by Foamex, L.P.

Estimated control efficiency of activated carbon for TDI is greater than 95%. This is the vendor's minimum guaranteed control efficiency.

No adsorption information is specifically available for amines, but based on vendor analysis, a conservative minimum control of 50% is expected.

Appendix A: Emissions Calculations
VOC Emissions
From VPF Unit Using MDI in Foam Production

Company Name: Foamex, L.P.
Address City IN Zip: 2211 South Wayne Street, Auburn, IN 46706
Source Modification No.: 033-13706
Pit ID: 033-00047
Reviewer: Trish Earls/EVP
Date: January 5, 2001

Material	Weight % Volatile Organics	Maximum Annual Usage (lb/yr)	Potential VOC tons per year	Carbon Adsorber Control Efficiency (%)	Controlled VOC tons per year
MDI	0.0016%	4,000,000	0.03	95.00%	1.6E-03
Methylene Chloride	0.00%	<20,000	0.00	0.00%	0.00

State Potential Emissions

0.03

1.6E-03

Note: The vapor pressure of MDI is approximately one-fourth that of TDI. The worst case assumption is that the same % of MDI is released as VOC as is for TDI. Methylene Chloride is not a VOC, however it is a HAP. The methylene chloride usage is set by the formulation factors in the MACT standard. The usage of Methylene Chloride will be less than 10 tons per year.

METHODOLOGY

Potential VOC Tons per Year = Maximum Annual Usage (lb/yr) * Weight % Volatile Organics * (1 ton/2000 lbs)

Estimated control efficiency of activated carbon for MDI is greater than 95%. This is the vendor's minimum guaranteed control efficiency.